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The prevalence and sources of perceived occupational stress among teachers in Western Australian government metropolitan primary schools

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THE PREVALENCE AND SOURCES OF PERCEIVED OCCUPATIONAL STRESS AMONG TEACHERS IN WESTERN AUSTRALIAN GOVERNMENT METROPOLITAN PRIMARY SCHOOLS

by

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Abstract

The aim of this study is to investigate the prevalence and sources of self-reported occupational stress among primary school teachers in Western Australian Government schools. Five specific objectives form the basis of this study. First, the study develops an instrument which measures the perceived levels of occupational stress and reveals the sources of such stress. Second, the study applies this instrument to determine the perceived levels, and sources, of occupational stress among primary school teachers in metropolitan Perth. Third, the study investigates differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics of teachers. Fourth, the study investigates the relationship between occupational stress and satisfaction. Fifth, path analysis techniques are used to test the adequacy of a stress-stressor model derived from *a priori* assumptions and temporal sequence.

A qualitative meta-analysis reveals characteristics of the literature which discursive reviews may omit. Such characteristics include trends in research interest in the topic of teacher stress over time and geographical area, the balance between types of studies, the relationship between types of studies, aspects of teacher stress and geographical area, findings of the studies, and determining categories into which the findings can be examined.

Definitions of stress and burnout, definitions of teacher stress and teacher burnout, reasons for concern about teacher stress and teacher burnout, the prevalence of stress in the teaching profession, sources of stress in the teaching profession, perceptions of stress and stressors when categorised by socio-biographical characteristics, and the relationship

between stress and occupational satisfaction are the areas from which information is accessed for the literature review.

Prior to the development of a conceptual framework, the purpose of such a framework is discussed. The conceptual framework itself is developed from two broad areas. These include teacher stress and corporate management theory. The role of and contribution made by the present study to each of these areas is explained.

The methodology of the present study is discussed in six broad areas. These include the preparatory phase, the sampling procedure, development of the research instrument, ethical considerations, data collection, and data analysis. The process of structural equation or causal modelling forms the final section of this chapter.

The outcomes which emerged from the study are analysed in relation to both the quantitative and qualitative data obtained during the investigation. In respect to the former these outcomes include the prevalence of stress among the teachers who participated in the study, differences in the numbers of responses in stress level categories, the perceived sources of stress, the identification of stress factors, differences in responses to perceptions of stress and stress factors when categorised by socio-biographical characteristics, analyses of the multi-item scales used in research instrument, the relationship between occupational stress, satisfaction and attitude towards teaching, and the development of a causal model of teacher stress. The qualitative information is discussed initially in terms of the socio-biographical characteristics of the teachers who were interviewed, as well as their perceived levels of occupational stress and satisfaction. Other information which is examined includes the

perceived attitude of the Ministry of Education and/or Government of Western Australia towards teachers, the nature of the identified stressful events, the incremental nature of normally non-stressful events, assessment of the research instrument and other information obtained during the data collection phase.

The study concludes by summarising the entire research process, making implications based on the findings and suggesting areas for further research.

Declaration

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text."

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CHAPTER I

INTRODUCTION

Since the 1970's developments in administrative theory and practice in general, and in particular in education, have continued to emphasise the role of people in organisational life. Such developments have resulted in workers being perceived as resources, rather than costs. As resources, people are valued more highly, with consequent implementation of administrative practices which reflect the importance of the human component in organisations.

One aspect of this concern with people in organisational life has been the initiation of an increasing amount of research into the relationship between workers and the organisational environment in which they are employed. In general terms this has become known sometimes as "person-environment fit". Several components of this concept have been identified in research as being important in the development of employees as resources. Among these components is one which is of particular relevance to the present study, namely, occupational stress.

The period of time since the early 1970's has witnessed quite a significant rise in the amount of research conducted into occupational stress. Included in this research have been investigations into the prevalence, causes, symptoms, consequences and management of occupational stress among human service professionals. Some of the human service professions which have attracted investigative interest include nurses, the police and teachers.

The desirability of understanding the nature of occupational stress becomes more apparent given recent changes to organisational administrative practices. In Western Australia, the various state government instrumentalities, including education, have been forced to adopt corporate management practices. The corporate management approach to administration, in relation to the workforce, emphasises effectiveness and efficiency. The achievement of such aims is at least partially dependent upon the health of employees. One of the influences on an employee's health is the existence, or otherwise, of occupational stress. Therefore, to ensure the maintenance of an effective and efficient teaching workforce, educational authorities should be aware of the factors which can contribute to the development of occupational stress among teachers.

Maintaining an effective and efficient teaching workforce is also an integral part of the Australian national government's desire to improve the educational standards of school-leavers. This desire has been exemplified in the oft mentioned phrase "the clever country". As the state governments have responsibility for the provision of primary and secondary education, they should be aware of aspects which may impinge upon the ability of teachers to contribute towards the creation of a clever country. Among these aspects could be the existence of unacceptable levels of occupational stress among teachers.

The combination of the above issues provides an ideal context for a study into occupational stress among teachers. Such a study should contribute further to the existing knowledge about teacher stress. Furthermore, benefits should also be derived in relation to administrative practices

aimed at ensuring the existence of an effective and efficient teaching workforce.

Background

The prevalence and sources of occupational stress among classroom teachers has been the subject of a considerable amount of research, undertaken in a variety of countries, during the previous fifteen to twenty years. Such research has resulted in the development of several instruments to measure the perceived degree of occupational stress, and identify the sources of stress, experienced by teachers. These instruments have been designed specifically according to a number of criteria, for example, age of children taught, type of student taught, geographical location of the school and category of school.

In Western Australia two major studies have been undertaken to investigate occupational stress among teachers. The State School Teachers' Union of Western Australia conducted a survey in 1982, which was followed in 1984 by an extensive study conducted jointly by the State School Teachers' Union and the Education Department. The latter study, which showed the existence of significant levels of occupational stress, involved approximately fifteen percent of teachers in Western Australian Government education institutions. The 1984 study also revealed the sources of stress as perceived by teachers. In addition to the release of a full report (Van Schoubroeck and Tuetteman, 1986), the data collected from the 1984 survey has been discussed in journal articles (Brown, Finlay-Jones and McHale, 1984; Finlay-Jones, 1986), and a summary report (Louden, 1987).

Since 1984 a number of events have occurred within the Western Australian Government education system which may indicate that the issue of teacher stress requires re-investigation. These events have included the release of the Beazley Report (1984) which recommended significant administrative and curriculum changes to the Western Australian Government education system. Simultaneous to the implementation of changes recommended by the Beazley Report, the Education Department was restructured into a Ministry of Education. The newly created Ministry almost immediately released the document "Better Schools: A Programme for Improvement" (Ministry of Education, 1987) which detailed proposed changes to the Government education system, and set specific timelines for implementation. The Better Schools Programme was essentially the Ministry's reaction to the State Government's demand for greater accountability and efficiency among public sector agencies (Whittaker, 1989). A significant aspect of this demand is the need for an effective and efficient workforce in the public sector. However, Nadebaum (1990a, 1990b) has acknowledged that, in regard to teachers, the Government has been derelict in the approach taken to the management of people. She cited as evidence the industrial action taken by teachers in 1989 and the difficulty in attracting and retaining quality teachers. In relation to the latter observation, Nadebaum (1990b) commented further that this task will become increasingly more onerous given the increasing demands being placed on teachers. A lack of quality teachers will impinge on the existence of an efficient and effective workforce. By re-investigating the issue of teacher stress, this study contributes to the achievement of the Government's aims by revealing areas which require administrative action to alleviate stress, thereby providing avenues for improving the effectiveness and efficiency

of the teaching workforce. Such action may also make teaching a more attractive career to school-leavers and tertiary institution graduates.

In addition to the structural and curriculum changes, the period since 1984 has witnessed unprecedented industrial action by Western Australian Government teachers. Such industrial action has been a response to the rapidity of change in the Government education system. The publicity which accompanied the industrial action discussed such issues as low teacher morale, shortages of teachers, teacher salaries, high teacher resignation rates, and the quality of classroom teachers. However, little, if any, discussion occurred in the media about the issue of teacher stress, which had been identified as a major problem in the 1984 survey. The present study considers the role of industrial action, or the apparent omnipresent threat of such action, on teacher stress.

Research by Hyde (1990) has revealed further influences on the working conditions of Western Australian teachers. His study of pastoral care in schools indicated that teachers are devoting time both in and out of school hours, and in some cases their own resources, to assist students and their families in dealing with adverse economic and social circumstances. Among the issues discussed by Hyde as a result of his study were the existence of an overload situation (too much to do in too little time) among the care givers (teachers), the need to reduce teacher stress and the desirability of improving teacher morale. Hyde's (1990) research would seem to indicate that the pastoral care role, which his study revealed has become an increasing part of a teacher's job, may contribute to the manifestation of teacher stress. An opportunity is presented by this study to verify this situation by incorporating items into

the stress measuring instrument which relate to the impact of pastoral care on stress.

Whereas previous research identified sources of stress, no studies in Western Australia have specifically examined the influence which each source had on the magnitude of teacher stress. This study aims to use a causal modelling procedure to investigate direct causal effects from stressors to teacher stress.

Overall, the benefits of an investigation into teacher stress in Western Australia Government schools can be discussed in relation to short- and long-term considerations. In respect to the short-term, an awareness of the extent and sources of teacher stress may enable the immediate implementation of organisational stress management policies such that the level and sources of stress could be modified or eliminated. In the long-term, the implications of the findings of the present study may be made apparent in areas such as management of organisational change, the formulation and implementation of school-level stress management policies, and the structure of teacher education courses. Given the State Government's stated aim of having an effective and efficient teacher workforce, the previously discussed benefits of the present study appear to have some importance.

Need for the Study

The comparative lack of research into occupational stress among Western Australian school teachers (State School Teachers' Union of Western Australia, 1982; Van Schoubroeck and Tuetteman, 1986), the radical transformation of the Western Australian Government education system since 1985 and the need to continually monitor aspects of organisational life which cause stress among teachers provide strong reasons for the present study.

The major study conducted in 1984 (Van Schoubroeck and Tuetteman, 1986) used multiple regression analysis as the main statistical technique. The present investigation will utilise a more sophisticated statistical approach, namely, structural equation (or causal) modelling. This approach provides for a more comprehensive interpretation of quantitative data (refer to Chapter V), and has not been applied to studies of teacher stress conducted previously in Western Australia.

Furthermore, the quantitative data will be complemented by information obtained from interviews with teachers. Such information will enable a more complete analysis of the causes of stress among Perth metropolitan primary school teachers. Information obtained by interview formed part of the State School Teachers' Union of Western Australia's (1982) investigation, but no such procedure was implemented in the 1984 survey (Van Schoubroeck and Tuetteman, 1986). Therefore, ten years have elapsed since the previous collection of information by interview. Consequently, there is a need to update descriptive material on teacher stress in Western Australia.

Results of research discussed in the literature (for example, Clark, 1980; Bacharach, Bauer and Conley, 1986; Van Schoubroeck and Tuetteman, 1986) have revealed the desirability of developing teacher stress measuring instruments for particular teaching situations. The previous two major stress studies (State School Teachers' Union of Western Australia, 1982; Van Schoubroeck and Tuetteman, 1986) surveyed a range of teachers from different types of schools. Although different questionnaires were utilised for each type of teacher, namely, primary, secondary, administrative and technical and further education, in the study reported by Van Schoubroeck and Tuetteman (1986), neither geographical location nor school size were considered within the data analysis. The present study makes such distinctions by concentrating on teachers in non-priority, metropolitan primary schools with non-teaching principals: the latter characteristic being dependent upon school size. Overall, the present study will provide a thorough analysis of teacher stress within such schools. This analysis will be unique within Western Australia. In addition, an instrument will have been developed which may be of use in future research into occupational stress among primary school teachers.

The mandatory implementation of corporate management practices in the Western Australian Government education system, with an emphasis on the effectiveness and efficiency of the teaching workforce, requires an analysis of teachers' working conditions. An investigation into the causes of occupational stress among metropolitan primary school teachers should provide a basis for the development of relevant policies, at both the school- and system-levels, to remove, modify or counteract the sources of occupational stress. These policies should make a

contribution towards the achievement of the corporate management goals of an efficient and effective teaching workforce.

General concern about the qualitative and quantitative effects of occupational stress on teachers represents another reason for the present study. Before suitable policies to counter the effects of stress can be implemented, the sources of teachers' stress need to be identified. The present investigation represents an opportunity to undertake this identification.

Essentially, the need for the present study has been encapsulated into a number of themes. These included the desirability of updating qualitative and quantitative information on the sources of teacher occupational stress, the application of a sophisticated statistical analytical technique to quantitative data which has no precedent in Western Australia, the development of a stress measuring instrument for metropolitan primary school teachers, the applicability of the obtained results to the development of appropriate stress management policies in relation to the achievement of corporate management goals, and general concern about the qualitative and quantitative effects of occupational stress on teachers.

Specific Research Objectives

Contextual influences on the Western Australian Government education system since 1984 may have introduced new sources of stress and altered the magnitude of stress experienced by teachers. Such influences have included:

(a) changes to a system-level management of education;

(b) school-level changes to administrative and curriculum practices;

(c) the increasing pastoral care role of teachers (Hyde, 1990); and

(d) the acknowledgement by Nadebaum (1990a, 1990b) that personnel problems exist in the teaching workforce.

These changes indicate that the issue of teacher stress in Western Australia requires re-investigation. Therefore, this study will, for a sample of teachers in Government, metropolitan, non-priority primary schools with non-teaching principals:

(1) develop a self-report instrument to identify the prevalence and sources of occupational stress;

(2) determine the levels and sources of perceived occupational stress;

(3) investigate any differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics;

(4) investigate the relationship between occupational stress and satisfaction; and

(5) investigate the adequacy and effectiveness of a causal model based on *a priori* theoretical assumptions and temporal sequence of events, using the method of path analysis.

Significance of the Study

The results of the present study will:

(1) provide an examination of the effects of system- and school-level change on perceived occupational stress levels among teachers in Western Australian Government metropolitan primary schools;
(2) present a conceptual framework from which subsequent studies into teacher stress can be undertaken;
(3) reveal the impact on perceived occupational stress of the increasing pastoral care role being assumed by teachers;
(4) indicate the impact of each source of stress on the overall level of stress experienced by teachers;
(5) determine if any significant trends are apparent in the perceptions of stress and stressors when categorised by socio-biographical characteristics of teachers;
(6) provide an indication of the validity of a single-item measure to determine the level of self-reported stress and occupational satisfaction; and
(7) analyse the usefulness of the Felt Effects Scale (Baldock, 1984) as a global measure of stress.

Definition of Key Terms

(1) Teacher occupational stress - refers to the perception of stress as a negative phenomenon resulting from the impact of characteristics of a teacher's working environment. Synonymous terms used throughout the present study include teacher stress, stress in teaching, job-related teacher stress, and stress in the teaching profession. For a further

exploration of this term reference should be made to the section in the literature review entitled "Definitions of Teacher Stress and Teacher Burnout".

(2) Stressors - this term can be defined in general as "...environment pressures or stimuli which are responsible for evoking the stress response" (Fisher, 1984, p. 226).

(3) Teacher stressors - "...refer to work related variables (demands) which tend to interfere with teacher work effort, deplete valuable time and energy, and cause tension in teachers" (Blase, 1982, p. 103). Essentially, teacher stressors are the occupational environmental causes of teacher stress. Stressors in the teaching profession is a synonymous term used in the present study.

Outline of the Study

Chapter II presents a specific methodological approach to reviewing the research literature. This approach, a qualitative meta-analysis, provides information about the literature beyond the capacity of the traditional discursive review. Such information includes the types of documents reviewed, publication dates, geographical areas of publication, and aspects of teacher stress investigated, categorised by type of document.

In Chapter III a discursive review of the literature is presented. This review focuses on the literature which relates to the aims of the present study. These aims include the development, application and analysis of a stress measuring instrument for Western Australian primary school teachers. Consequently, the literature review will comprise sections

including definitions of stress and burnout, definitions of teacher stress and teacher burnout, reasons for concern about teacher stress and teacher burnout, the prevalence of stress in the teaching profession, differences in the perception of stress and stressors when categorised by socio-biographical characteristics, and the relationship between occupational stress and satisfaction among teachers.

The conceptual framework of the present study is discussed in Chapter IV. This chapter traces developments in general stress theory and occupational stress theory, before examining models of teacher stress. In addition, trends in the development of administrative theory and practice in general, and educational administration specifically, will be examined. From the section of the chapter on teacher stress models, a theoretical causal model of teacher stress is proposed. A synthesis of the salient information derived from both of the main sections of the chapter will reveal how the present study will contribute to the acquisition of knowledge in relation to teacher occupational stress and educational administration theory and practice.

Chapter V considers the methodology of the present investigation. Essentially, this chapter comprises three broad sections. The first section traces the study from the preparatory phase through to the acquisition and collation of data. The second section examines the general principles of structural equation modelling before discussing the specific procedure, namely Lisrel VII, which is used in the present investigation. Section three discusses the present study in terms of a relevant research paradigm.

Analysis of the quantitative information obtained by the questionnaires is undertaken in Chapter VI. This analysis includes a review of the socio-biographical characteristics of the teachers who completed the questionnaires. The second section of the chapter discusses the development of the self-report teacher stress instrument. In the third section the prevalence of stress among the respondents is examined, as are any differences in the frequency of responses, based on socio-biographical characteristics, to both the single-item question on stress and the Felt Effects Scale (Baldock, 1984). The fourth section of the chapter discusses the perceived sources of stress, while highlighting the most and least important of these sources. The results of a factor analysis of the items relating to sources of stress is examined in the fifth section. This analysis is followed by an investigation into any differences in the responses to the rating of stress and stress factors when categorised by socio-biographical characteristics. The seventh section of the chapter examines the existence of any relationships between occupational stress, satisfaction and attitude towards teaching.

Chapter VII comprises a discussion on the development of a causal model of teacher stress. Within this discussion the derivation of a structural equation model is explained. This explanation is followed by the development and analysis of a causal model of teacher stress.

Qualitative information obtained throughout the implementation of the present study is discussed in Chapter VIII. Such information was obtained from interviews conducted with twenty-four of the teachers who completed the questionnaires, observations made by the present researcher during the interviews, discussions which occurred with

principals when the questionnaires were being distributed and collected, and written comments made by teachers on the questionnaires.

The final chapter of the present study reviews the entire investigation. This review involves a summary, and a discussion of the implications, of the findings. Furthermore, recommendations for further research are suggested.

Assumptions of the Study

Five assumptions underlie the present study. These assumptions include that:

(1) the responses to the items in the questionnaire actually represent teachers' perceptions of stress and stress situations, the interviews being used to qualify these perceptions;
(2) the basis of the stress process being investigated is psychological in nature, hence the use of a self-report instrument;
(3) socio-biographical characteristics play a role in the stress process being investigated;
(4) some stressors are acknowledged as being both psychological and physical in nature; and
(5) coping mechanisms, non-occupational stressors, failure to cope with previous demands and teacher stress itself may all influence the perception of stress and stressors.

Summary

The purpose of this chapter was to introduce the major focus and nature of the study. The introductory and background sections explained the context of the present research, before the need for the study was reviewed. Five main specific research objectives formed the basis of the present research. These included the development of a stress measuring instrument, the determination of the prevalence and sources of teacher stress, an examination of differences in the perceptions of stress and stressors when categorised by the socio-biographical characteristics of teachers, the determination of the relationship between occupational stress and satisfaction, and an investigation into the adequacy of a causal model of teacher stress using path analysis procedures.

The significance of the present study was discussed in relation to the impact of recent contextual factors on teacher stress. Such factors included the impact of recent Ministry-initiated changes and the increasing pastoral care role of teachers. Other issues of significance outlined included the usefulness of the conceptual framework for future research, the role of individual stress factors in overall teacher stress, the determination of trends in relation to responses to and ratings of stress and stressors when categorised by socio-biographical characteristics of teachers, the reliability of single-item questions to measure occupational stress and satisfaction, and the usefulness of the Felt Effects Scale (Baldock, 1984) as a measure of global stress.

Three key terms were identified and defined. These included teacher occupational stress, stressors and teacher stressors. The sixth section of this chapter revealed the outline of the entire study, while the final section

identified the assumptions of the present research. Within the sixth section the purpose of the next chapter, the development of an approach to the meta-analysis of large amounts of information based on non-experimental methodologies, was discussed.

CHAPTER II

QUALITATIVE META-ANALYSIS OF THE LITERATURE

Introduction

Descriptive literature reviews are limited in the amount of detail which can be included, particularly when the body of literature is relatively large. Glass (1976) suggested a solution to this problem in relation to experimental research by proposing the use of quantitative meta-analysis procedures. The application of similar principles to non-experimental research which contains information based on qualitative data has received limited application. Three successful attempts were those of Deschamp (1983), who applied the principles to research on teachers' instructional planning, Hyde (1985) who applied the principles to research on the development of a structural model for the analysis of school-based decision-making and Lock (1989) who applied the principles to research on increasing community participation in school-based decision-making. The procedures used in the present research were adopted from these resources, and are described in Appendix One.

The aim of a qualitative meta-analysis was described by Deschamp (1983, Vol. 2, p. 7) as:

> To portray a body of research containing studies ranging from reports of individual case studies to large scale inquiries in an open, systematic, and concise way, whereby the essence of the combined findings can be apprehended.

In addition to the synthesising property of a qualitative meta-analysis, other characteristics of the literature are revealed. Such characteristics, as applied to the present research, include:

(1) trends in research interest in the topic over time and geographical area of publication;
(2) balance between types of studies;
(3) relationship between types of studies, aspects of teacher stress and geographical area of publication;
(4) findings of the studies; and
(5) determining categories into which the findings could be examined.

The aspects of teacher stress used in the qualitative meta-analysis followed the structure of the literature review - definitions of stress and burnout, definitions of teacher stress and burnout, reasons for concern about teacher stress, the prevalence of stress in the teaching profession, sources of stress in the teaching profession, stress in teaching and socio-biographical characteristics, and the relationship between teacher stress and satisfaction. In addition to these aspects, literature which discussed the relationship between teacher stress and personality characteristics and management of teacher stress were included in the qualitative meta-analysis. These categories were included because of the implications of the present study on stress management policies and the provision of an initial literature base for future researchers.

The procedures used to undertake a qualitative meta-analysis of the literature reviewed in the present study are discussed in Appendix One. In relation to the qualitative meta-analysis undertaken for the present

research, the geographical location of the current investigation could have been an influential factor on the availability of resources. Such a factor should be considered when interpreting the analysis of the literature used in the present study.

The Theoretical Literature

The analysis of the theoretical literature was based upon categories which included the type and year of publication, country of origin and major focus. The major focus was described in relation to various aspects of teacher stress.

Overall seventeen items of theoretical literature on teacher stress were reviewed within the total literature search. Although this may appear to be a relatively small amount, the very nature of teacher stress requires extensive research in an attempt to gain a greater understanding of this phenomenon. This is reflected by the large number of research references discussed in the next section.

In respect to the type of document reviewed, Table 2.1 indicates that nine (53% of the total) were texts, six (35%) were journal articles, and of the other two (12%) one was a government document and one was a monograph. The absence of research reports and conference papers is arguably understandable. These types of documents are concerned generally with research rather than theory.

Table 2.1

The Theoretical Literature Categorised by Type and Year of Publication

Type of Document	Year of Publication								
	Pre 1971	1971-73	1974-76	1977-79	1980-82	1983-85	1986-88	Post 1988	Total
Text	2	1	4		1	1			9
Journal			1	1	1	1		2	6
Research Report									
Conference Paper									
Other (eg. Government report, monograph, unpublished paper, micofiche)					1			1	2
Total	2	1	5	1	3	2		3	17

An examination of the years of publication of the theoretical literature reveals some identifiable trends. Two references (12% of the total) with a publication date prior to 1971 were reviewed as part of the literature search. By contrast, in the 1970's seven (41%) of the theoretical references were published, and eight (47%) documents had a publication date after 1980. The relatively large number of publication dates since 1970 probably reflects increasing concern with the impact of stress on the teaching profession, which resulted from the start of the human resources management era (Owens, 1991) in educational administration. If the trend towards increased concern in regard to stress in the teaching profession continues, then the number of theoretical publications on this topic may increase in the forthcoming years.

References published in North America comprised sixty-five percent of the total theoretical literature (Table 2.2). The remainder of the references were published equally in the geographical areas of Europe/the United Kingdom and Australia/New Zealand. Analysed by type of reference and geographical area, eight of the texts (89% of the total) were published in North America, while the remaining text was published in the United Kingdom. Journal articles were published equally in number across all three geographical areas (two in each area). Of the remaining two theoretical references, one monograph was published in North America and one government document was published in Australia.

Table 2.2

The Theoretical Literature Categorised by Type and Geographical Area of Publication

	Geographical Area of Origin			
Type of Document	North America	Europe/ United Kingdom	Australia/ New Zealand	Total
Text	8	1		9
Journal	2	2	2	6
Research Report				
Conference Paper				
Other (eg. Government report, monograph, unpublished paper, microfiche)	1		1	2
Total	11	3	3	17

Probably the most noticeable trend revealed by the meta-analysis is the relative dearth of publications in Europe/the United Kingdom and Australia/New Zealand on stress in the teaching profession. To some extent this has been compensated by the amount of research literature (Table 2.3) published in these two geographical areas. However, there would appear to be a need for an increase in theoretical application to the problem of stress in teaching in Europe/the United Kingdom and Australia/New Zealand.

The Research Literature

Two hundred and forty-eight references (Table 2.3) were reviewed within the total literature search. In respect to the type of documents reviewed, forty-five (19% of the total) were texts, one hundred and thirty-eight (56%) were classified as journal articles, eleven (4%) were research reports, twenty-five (10%) were conference papers, and twenty-nine (11%) were identified as government reports, microfiche, unpublished papers or monographs. Prior to 1971 only nine (4% of the total) of the research references reviewed were published. Forty-six (19%), of the research references had publication dates during the 1970's, while the remaining one hundred and ninety-three references (77%) were published in the period following 1980. Of the references published since 1980, quite a large number (54 or 22% of the total) had publication dates after 1988.

The large amount of research references published in the last ten years is reflected consistently across all document types. Thirty-two texts (71%), eighty-five journal articles (61%), eight research reports (73%), sixteen conference papers (64%), and nineteen (66%) government reports, monographs, unpublished papers or microfiche had been published since

1983. Overall, one hundred and sixty (65% of the total) research references were published in the post-1983 period.

Documents published in North America comprised fifty-four percent (Table 2.4) of the total research literature. Publications from Europe/the United Kingdom contributed seventeen percent to the total, while publications from Australia/New Zealand made up twenty-nine percent of the total research literature. Analysed by type of document and geographical area, twenty-eight of the texts (62% of the total) were published in North America; thirteen (29%) were published in Europe/North America; and four (9%) were published in Australia/New Zealand. The dominance of North American publications is also evident among journal articles with eighty-two (60% of the total) originating from this geographical area. The number of journal articles published in the other two geographical areas are very similar - twenty-seven from Europe/the United Kingdom and twenty-nine from Australia/New Zealand. In the remaining three categories of document types, publications from Australia/New Zealand predominate. Of particular interest is the number of government reports emanating from this area. Such a phenomenon can be explained by the dominance of government controlled schools in these two countries by comparison with the United Kingdom and North America, where schools are controlled at the local level. Another interesting trend is the relative recency of publication of research reports and conference papers. As discussed in the section on the theoretical literature such a trend could reflect the impact of human resource management principles on educational administration.

Table 2.3

The Research Literature Categorised by Type and Year of Publication

Type of Document	Year of Publication								
	Pre 1971	1971-73	1974-76	1977-79	1980-82	1983-85	1986-88	Post 1988	Total
Text			1	4	8	11	7	14	45
Journal	8		6	23	16	40	27	18	138
Research Report				2	1	3	2	3	11
Conference Paper		1		2	6	4	6	6	25
Other (eg. Government report, monograph, unpublished paper, microfiche)	1	2	1	4	2	3	3	13	29
Total	9	3	8	35	33	61	45	54	248

Table 2.4

The Research Literature Categorised by Type and Geographical Area of Publication

	Geographical Area of Origin			
Type of Document	North America	Europe/ United Kingdom	Australia/ New Zealand	Total
Text	28	13	4	45
Journal	82	27	29	138
Research Report	3		8	11
Conference Report	11	1	13	25
Other (eg. Government report, monograph, unpublished paper, microfiche)	10	2	17	29
Total	134	43	71	248

The Research and the Theoretical Literature

An informative overview of the entire literature base can be obtained by combining the statistics on the theoretical and research literature. Table 2.5 reveals that, overall, two hundred and sixty-five references were reviewed. Fifty-four (21% of the total) were texts, one hundred and forty-four (54%) were journal articles eleven (4%) were research reports, twenty-five (9%) were conference papers, and thirty-one (12%) were government reports, monographs, unpublished papers or microfiche. Two hundred and one (76% of the total) references had a publication date after 1980, and fifty-seven (21%) documents were published in the post-1988 period.

An analysis of the literature based on document type and geographical area of publication (Table 2.6) reveals the dominance (55% of the total) of North American references. Documents published in Australia/New Zealand comprised twenty-eight percent of the total references, with the remainder (17%) having been published in Europe/the United Kingdom. North American publications dominate in the text and journal articles categories. However, references published in Australia/New Zealand comprise over fifty percent of each of the remaining three document categories.

Table 2.7 summarises the frequency of document types against aspects of teacher stress. Given the dominance of research documents in the overall literature, the high frequency rate of journal articles noted in this table is an expected trend. Of the aspects of teacher stress listed in the table, the two which have received the most attention are sources of teacher stress and stress management. Four other aspects which have

received considerable attention include definitions of stress and burnout, definitions of teacher stress and burnout, the prevalence of teacher stress, and differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics. Table 2.8 lists the specific references for each of the aspects of teacher stress.

Summary

The qualitative meta-analysis discussed in this chapter provided insights into the literature beyond that found in a conventional literature review. The literature was analysed in two categories, theoretical and research, in addition to the total number of references. The qualitative meta-analysis revealed trends in the type of document reviewed, date of publication and geographical area of publication. An analysis of the literature by aspect of teacher stress was also undertaken. Some of the more noticeable trends to emerge from the meta-analysis included (i) the dominance of research literature and of references published after 1980 (possibly reflecting the acknowledgement among researchers about the importance of the role of people in the effective functioning of an organisation), (ii) journal articles forming the majority of documents reviewed, (iii) North American publications comprising more than half the references, and (iv) the large number of documents which examined sources of teacher stress and stress management. Of some relevance to the geographical area of the present research was that the number of references published in Australia/New Zealand, although approximately half that of North America, still comprised over a quarter of the total documents reviewed.

Table 2.5

The Research and Theoretical Literature Categorised by Type and Year of Publication

Type of Document	Year of Publication								
	Pre 1971	1971-73	1974-76	1977-79	1980-82	1983-85	1986-88	Post 1988	Total
Text	2	1	5	4	9	12	7	14	54
Journal	8		7	24	17	41	27	20	144
Research Report				2	1	3	2	3	11
Conference Paper		1		2	6	4	6	6	25
Other (eg. Government report, monograph, unpublished paper, microfiche)	1	2	1	4	3	3	3	14	31
Total	11	4	13	36	36	63	45	57	265

Table 2.6

The Research and Theoretical Literature Categorised by Type and Geographical Area of Publication

	Geographical Area of Origin			
Type of Document	North America	Europe/ United Kingdom	Australia/ New Zealand	Total
Text	36	14	4	54
Journal	84	29	31	144
Research Report	3		8	11
Conference Paper	11	1	13	25
Other (eg. Government, report, monograph, unpublished paper, micofiche)	11	2	18	31
Total	145	45	74	265

Table 2.7

The Frequency of References Located in the Research and Theoretical Literature Relating To Aspects of Teacher Stress Categorised by Aspect and Type of Publication

Aspect of Teacher Stress	Type of Publication				
	Text	Journal	Conference Paper	Other	Total
Definitions of stress and burnout	22	35	4	5	61
Definitions of teacher stress and teacher burnout	6	35	5	2	48
Reasons for concern about teacher stress	2	2	1	2	7
Prevalence of teacher stress	4	27	2	7	40
Sources of teacher stress	21	83	7	10	121
Socio-biographical characteristics, stress and stressors	3	28	2	5	38
Relationship between stress and satisfaction	2	10	2	2	16
Relationship between stress and personality characteristics	3	5	1		9
Stress management	18	62	7	10	97
Models of teacher stress		16	1	1	13

Table 2.8

The Research and Theoretical Literature Making Reference to Aspects of Teacher Stress Categorised by Aspect and Type of Publication

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Definitions of stress and burnout	Beehr & Franz (1987) Bernard (1990) Capel (1989) Cole (1989) Edilwich & Brodsky (1980) Eisenstat & Felner (1983) Farber (1983a, 1983b) Freudenberger & Richelson (1980) Gold & Roth (1993) Greenhaus & Parasuraman (1987) Ianni & Reuss - Ianni (1983) Maslach & Jackson (1981) Miller (1979) Otto (1986a, 1989) Pines (1983) Pines et al. (1981) Quick et al. (1987) Sakherov & Farber (1983) Sparks & Hammond (1981) Watson et al. (1987)	Bacharach et al. (1986) Blase (1986) Brown et al. (1984) Cox (1975, 1980) Dunham (1976) Farber & Miller (1981) Fimian (1982, 1984a) Finlay-Jones (1986) Fisher (1984) Friesen & Sarros (1989) Freudenberger (1974, 1975) Gold (1984b) Hembling & Gilliland Hock (1988) Holt et al. (1987) Lazarus (1966, 1974) Leach (1984) Maslach (1976) Milstein & Golaszewski (1985) Milstein et al. (1984) Otto (1985b) Payne & Fletcher (1983) Schutz & Long (1988) Sparks (1981) Sutton (1984) Tollenback et al. (1983) Tetrick & La Rocco (1987) Tosi & Tosi (1970) Trendall (1989) Whiteman et al. (1984)	Freudenberger (1981) McHale (1984) Otto (1986b) Smith & Bourke (1990)	Fisher (1983) Otto (1982) Truch (1980) Tvetteman (1988, 1991)

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Definitions of teacher stress and teacher burnout	Bernard (1990) Esteve (1989a) Gold & Roth (1993) Kyriacou (1989) Sakharov & Farber (1983) Sparks & Hammond (1981) Woods (1989)	Blase (1982, 1984) Brenner et al. (1985) De Frank & Stroup (1989 Dunham (1976, 1977, 1980, 1981) Fairley (1991) Farber & Miller (1981) Fimian (1982, 1984b) Finlay-Jones (1986) Freeman (1986) Gold (1984a) Kyriacou (1987) Kyriacou & Sutcliffe (1977a, 1977b, 1978a, 1978b, 1979) Laughlin (1984) Leach (1984) Manthei & Solman (1988) McCormick & Solman (1991) Meir & Melamed (1986) O'Connor & Clarke (1990) Parkay et al. (1987) Russell et al (1987) Schutz & Long (1988) Schwab & Iwanicki (1982a) Smilansky (1984) Swicord (1987) Tellenback et al. (1983) Worrall & May 1989)	Knight (1982) McCormick & Solman (1990a, 1990b) McGuire (1979) Smith & Bourke (1990)	Tuetteman (1988, 1991) State School Teachers' Union of Western Australia (1982)
Reasons for concern about teacher stress	Chakravorty (1989) Kyriacou (1989)	Fairley (1990) Kyriacou (1987)	Lister (1986)	Ministry of Education (1991) Truch (1980)

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Prevalence of teacher stress and teacher burnout	Bernard (1990) Cappel (1987) Otto (1985a) Sparks & Hammond (1981)	Bacharach et al. (1986) Finlay-Jones (1986) Galloway et al. (1984a, 1984b) Hembling & Gilliland (1981) Hock (1988) Kinnunen (1988) Kyriacou (1987) Kyriacou & Sutcliffe (1977a, 1978b, 1979) Laughlin (1984) Leach (1984) Manthei & Solman (1988) Milstein & Golaszewski Moracco et al. (1982) Mykletun (1984) National Education Association (1951, 1967, 1976) O'Connor & Clarke (1990) Otto (1985b) Panckhurst (1982) Pratt (1978) Tellenback et al. (1983) Trendall (1989) Tuetteman (1991)	Chiu et al. (1986) McCormick & Solman (1990a)	Louden (1987) Otto (1982) State School Teachers' Union of Western Australia (1982) Truch (1980) Tuetteman (1986, 1991) University of Melbourne (1989) Van Schoubroeck & Tuetteman (1986)

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Sources of teacher stress and teacher burnout	Bernard (1990) Capel (1988) Chakravorty (1989) Cole (1989) Cox et al. (1989) Eismnstat & Felner (1983) Esteve (1989a) Farber (1983a, 1983b) Fibkins (1983) Gold & Roth (1993) Hall et al. (1988) Ianni & Reuss-Ianni (1983) Kyriacou (1987, 1989) Miller (1979) Otto (1985b, 1986a, 1989) Sakharov & Farber (1983) Sparks & Hammond (1981) Woods (1989)	Abbey & Esposito (1985) Albertson & Kagan (1987) Bacharach et al. (1986) Blase (1982, 1984, 1986) Brenner et al. (1985) Brown et al. (1984) Bruce & Cacioppe (1989) Burke & Taylor (1991) Cichon & Koff (1980) Coates & Thoresen (1976) Connors (1990) Coughlin (1970) Dear (1990) Docking (1985) Doring (1992) Dunham (1976, 1977, 1980, 1981) Dworkin et al. (1988) Farber & Miller (1981) Farraquia (1986) Ferguson (1990) Fimian (1982, 1984a) Finlay-Jones (1986) Fisher (1984) Foxworth & Karnes (1983) Foxworth et al. (1984) Francis (1984) Friesen & Sarros (1989) Fuller (1969) Galloway et al. (1984b, 1986) Gold (1984a, 1984b) Gorrell et al. (1985) Harris et al. (1985) Hembling & Gilliland (1981) Herbert & Farber (1984) Hock (1988)	Chiu et al. (1986) Knight (1982) McCormick & Solman (1990a, 1990b) McHale (1984) Otto (1986b) Smith & Bourke (1990)	Clark (1980) Fordham & Hunt (1984) Fisher (1983) Louden (1987) Otto (1982) State School Teachers' Union of Western Australia Truch (1980) Tuetteman (1988) University of Melbourne (1982) Van Schoubroack & Tuetteman (1986)

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Sources of teacher stress and teacher burnout		Landsmann (1978) Kyriacou & Sutcliffe (1977b, 1978a, 1978b, 1979) Laughlin (1984) Leach (1984) Mager et al. (1985) Manthei & Solman (1988) McCormick & Solman (1991) McGuire (1979) Meir & Melamed (1986) Milstein & Golaszewski (1985) Milstein et al. (1984) Moracco et al. (1982) Myklatun (1984, 1988) National Education Association (1951, 1978) O'Connor & Clarke (1990) Otto (1985a) Parkay et al. (1988) Payne & Fletcher (1983) Pettegrew & Wolf (1982) Pratt (1978) Raschke et al. (1986) Richards & Johnson (1985) Russell et al. (1987) Schutz & Long (1988) Scrivens (1979) Smilansky (1984) Sparks (1979b) Stone (1984) Sutton (1984) Tellenback et al. (1983) Tosi & Tosi (1970) Trendall (1989) Tuetteman (1991) Young (1978)		

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Socio-biographical characteristics, stress and stressors	Otto (1985b, 1986a) Sparks & Hammond (1981)	Bruce & Cacioppe (1989) Cichon & Koff (1980) De Frank & Stroup (1989) Dworkin et al. (1988) Fimian (1984a) Finlay-Jones (1986) Fisher (1984) Foxworth & Karnes (1983) Gold (1985) Harris et al. (1985) Hock (1988) Holt et al. (1985) Kinnunen (1988) Kyriacou & Sutcliffe (1977a, 1978b, 1979) Laughlin (1984) Manthei & Solman (1988) Mykletun (1984) O'Connor & Clarke (1990) Panckhurst (1982) Russell et al. (1987) Schwab & Iwanicki (1982a, 1982b)	Chiu et al. (1986) McCormick & Solman (1990a) Tellenback et al. (1983) Trendall (1989) Tuetteman (1991) Whiteman et al. (1984)	Early (1989) Fisher (1983) Louden (1987) Tuetteman (1988) Van Schoubroeck & Tuetteman (1988)
Relationship between stress and satisfaction	Kyriacou (1987) Otto (1986a)	De Frank & Stroup (1989) Galloway et al. (1984b) Kyriacou & Sutcliffe (1977a, 1979) Laughlin (1984) Mykletun (1988) Panckhurst (1982) Smilansky (1984) Tosi & Tosi (1970) Tuetteman (1991)	McCormick & Solman (1990b) Smith & Bourke (1990)	Otto (1982) Tuetteman (1988)
Relationship between stress and personality factors	Bernard (1990) Capel (1987) Kyriacou (1987)	Albertson & Kagan (1987) Francis (1984) Holt et al. (1987) O'Connor and Clarke (1990) Parkay et al. (1988)	Chiu et al. (1986)	

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Stress management	Bernard (1990) Capel (1989) Chakravorty (1989) Cole (1989) Cox et al. (1989) Dunham (1989) Eisenstat & Felner (1983) Esteve (1989b) Fibkins (1983) Hall et al. (1989) Ianni & Reuss-Ianni (1983) Kyriacou (1987) Miller (1979) Otto (1985b, 1986a, 1989) Sakharov & Farber (1983) Sparks & Hammond (1981)	Abbey & Esposito (1985) Albertson & Kagan (1987) Blase (1982, 1984, 1986) Cichon & Koff (1980) Coates & Thoresen (1976) De Frank & Stroup (1989) Dewe (1985) Docking (1985) Dunham (1976, 1977, 1980, 1981) Fairley (1991) Ferguson (1990) Finlay-Jones (1986) Fisher (1984) Foxworth & Karnes (1983) Francis (1984) Freeman (1987) Friesen & Sarros (1989) Gold (1984b) Gore (1987) Harris et al. (1986) Hembling & Gilland (1981) Hock (1988) Holt et al. (1987) Kossack & Woods (1980) Lancaster (1991) Landsmann (1978) Laughlin (1984) Leach (1984) Mager et al. (1986) Manthei & Solman (1988) Maslach (1976) McCormick & Solman (1991) McGuire (1979) Milstein & Golaszewski (1985) Moe (1979) Mondale (1979) Mykletun (1984) National Education Association (1950) O'Connor & Clarke (1990) Osipow & Davis (1988) Otto (1985a)	Chiu et al. (1986) Hobbs (1990) Hosking (1986) Knight (1982) McCormick & Solman (1990a) Otto (1986b) Smith & Bourke (1990)	Australian Education Council (1990) Fisher (1983) Louden (1987) Ministry of Education (1990) Otto (1982) State School Teachers' Union of Western Australia (1982) Truch (1980) Tuetteman (1988) University of Melbourne (1988) Van Schoubroeck & Tuetteman (1986)

Table 2.8 (Continued)

Aspect of Teacher Stress	Type of Publication			
	Text	Journal	Conference Paper	Other
Stress management		Parkay et al. (1989) Pettegrew & Wolf (1982) Quick et al. (1987) Raschke et al. (1985) Russell et al. (1987) Sarros & Sarros (1991) Schwab & Iwanicki (1982a) Sparks (1979b) Sutton (1984) Swicord (1987) Taylor & Salend (1983) Tetrick & La Rocco (1987) Tosi & Tosi (1970) Trendall (1989) Tunnecliffe et al. (1986) Whiteman et al. (1984) Young (1978)		
Models of teacher stress	Gold & Roth (1993)	Blase (1982) Brenner et al. (1985) De Frank & Stroup (1989) Kyriacou & Sutcliffe (1978a) Leach (1984) Pettegrew & Wolf (1982) Russell et al. (1987) Schutz & Long (1988) Tellenback et al. (1983) Worrall & May (1989)	Smith & Bourke (1990)	Fisher (1984) Truch (1980)

While the previous discussion has analysed the literature according to the principles of a qualitative meta-analysis, the next chapter presents the more traditional discursive approach to a literature review.

CHAPTER III

REVIEW OF THE LITERATURE

Introduction

During the past two decades there has been an upsurge in research studies investigating the nature and impact of stress on the working lives of men and women in a variety of employment situations. These studies examined issues relating to the definition of stress, stress recognition, sources of stress, stress management, and the prevalence of stress in a variety of occupations.

This chapter reviews the extensive range of literature and focuses on the relationships of the concept of stress to the context of the present study, namely the development, application and analysis of a stress measurement instrument for Western Australian primary school teachers.

Given the extensive nature of the literature on stress, a framework for the analysis of such literature was developed. The basis of this framework was derived from the work of Kyriacou (1987) in his international review of research on stress in teaching. The review of the literature for the present study will comprise the following sections:

(a) definitions of stress and burnout;
(b) definitions of teacher stress and burnout;
(c) reasons for concern about teacher stress and burnout;
(d) the prevalence of stress in the teaching profession;
(e) sources of stress in the teaching profession;

(f) perceptions of stress and stressors when categorised by socio-biographical characteristics of teachers; and

(g) the relationship between occupational stress and satisfaction among teachers.

Definitions of Stress and Burnout

Stress is a somewhat abstract concept which requires specific definitions before it can be operationalised and measured in empirical research. Different authors provide different definitions reflecting the nature of their research. This section of the literature review examines the various definitions of stress, the associated concept of burnout, and the relationship between stress and burnout.

Although not measured in the present study, the concept of burnout is examined in the literature review. This examination has been undertaken to emphasise clearly the difference between stress and burnout. Definitions of stress and burnout vary from the general to the specific. In a broad observation on stress, Selye (1956, 1976) noted that stress is not only unavoidable, but also that the effects of stress can be positive or negative. Selye labelled the negative effects as "distress" and the positive reactions as "eustress". Lazarus (1974) discussed stress in more specific terms when he stated:

> The concept of stress describes a particular kind of commerce between the individual and his environment, one in which strong external demands are made upon a person against which he must mobilize his resources; or strong

> internal needs are aroused requiring mobilization of resources to gratify them. (p. 466)

Fisher (1984) provided an even more precise definition of stress:

> Stress is basically a physiological phenomenon which is effected by the operation of the neural and endocrine systems. Stress is evoked when an individual perceives a difference between environmental demands and felt capacity to cope with such demands. Stress therefore involves perception of stressors, appraisal of them, and neuro-endocrine response mechanisms of the body to them. Strain occurs when stress processes operate over prolonged periods. (p. 226)

Fisher's (1984) definition introduces two concepts within the stress process which require exploration. First, an examination of the term stressor. Several researchers have discussed this concept (Finlay-Jones, 1986; Fisher 1983, 1984; Tuetteman, 1988), but probably the most succinct definition of the term stressor was that used by Greenhaus and Parasuraman (1987) who stated that, "Stressors are environmental situations or events potentially capable of producing the state of stress ..." (p. 38). Second, the concept of strain, which has been defined neatly by Sutton (1984) as:

> ... any adverse behavioural, psychological, or physiological outcome in a person. Examples include anxiety, depression, negative affect towards job and life, drug abuse, and somatic

> complaints. Strain is a short-term indicator of personal ill-being. (p. 8)

Also of interest in Fisher's (1984) definition of stress is the implication that individual perception is of importance in determining the ultimate reaction of a person to a potential stressor. This subjectivity of the stress response had already been discussed by Fisher (1983) in a research report prior to his 1984 publication. In addition, Blase (1986), Capel (1989), Cole (1989), Fimian (1982), McHale (1984) and Otto (1985a, 1985b, 1986a, 1986b, 1989) explored the issue of subjectivity in the stress process. The latter researcher, in particular, was insistent that subjective perception did not necessarily preclude objective existence of a stressor.

Overall, Holt, Fine and Tollefson (1987) provided a succinct summary of the literature which discussed the concept of stress. They suggested that stress is defined differently by different researchers; stress can be a positive or negative phenomenon; the perception of an event as stressful is subjective; some people mediate potentially stressful events more successfully than others; and continued stress can lead to negative physical and psychological outcomes, and over time lead to burnout. (p. 51)

The linking of stress with burnout, as outlined by Holt et al. (1987) was also evident in the definition of stress presented by Trendall (1989). Given the apparently close relationship between these two concepts, and the often erroneous synonymous use of the two terms, burnout requires some discussion and clarification.

Eisenstat and Felner (1983) regarded stress as being implicit within the notion of burnout. Such a position has found support among other researchers (Bernard, 1990; Capel, 1989; Fisher, 1984; Gold, 1984a; Holt et al., 1987; Ianni and Reuss-Ianni, 1983; Otto, 1986a). In their various discussions on burnout most of these researchers make reference to the work of Maslach (1976) who conceptualised burnout in terms of emotional exhaustion, depersonalisation and (lack of) personal accomplishment. The concept of burnout is probably best explained by Otto (1986a) who suggested that burnout is one manifestation of emotional and physical exhaustion resulting from prolonged stress. However, burnout should not be regarded necessarily as a final step in unsuccessful attempts to mediate stress (Holt et al., 1987; Maslach and Jackson, 1981) and can be viewed as a continuous variable (Bernard, 1990; Capel, 1989; Holt et al., 1987; Maslach and Jackson, 1981). Furthermore, Hock (1988), while acknowledging that a relationship exists between stress and burnout, also cautioned that difficulties exist in determining the directionality between these two phenomena.

In general, the discussion emanating from the literature has suggested that burnout can be conceptualised as a function of the stresses engendered by individual, work-related, and societal factors. However, the directionality between such stresses and burnout is difficult to determine. Despite this, most researchers postulated that burnout, which should be regarded as a continuous variable, occurs when individuals perceive that their actions can no longer effect desired changes in the environment. Consequently, they cease attempting to change their environment. The symptoms of burnout include attitudinal, emotional, and physical components.

While the concepts of stress and burnout in general have been discussed, the context of the present research is in the teaching profession. Consequently, the concepts of teacher stress and teacher burnout require clarification.

Definitions of Teacher Stress and Teacher Burnout

Perhaps the most comprehensive definition of teacher stress is that proposed by Kyriacou and Sutcliffe (1978a) who stated:

> Teacher stress may be defined as a response of negative affect (such as anger or depression) by a teacher usually accompanied by potentially pathogenic physiological and biochemical changes (such as increased heart rate or release of adrenocorticotrophic hormones in the bloodstream) resulting from aspects of the teacher's job and mediated by the perception that the demands made upon the teacher constitute a threat to his self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat. (p.2)

This definition, or derivatives thereof, appear frequently in the literature on teacher stress. Apart from the use of this definition by Kyriacou and Sutcliffe in other studies (Kyriacou and Sutcliffe, 1977b, 1978b) and by Kyriacou (1987, 1989), other researchers (Bernard, 1990; Laughlin, 1984; Manthei and Solman, 1988; Mykletun, 1988) have either quoted directly or based definitions of teacher stress on that derived by Kyriacou and Sutcliffe (1978a).

Consistent with definitions of stress in general, the definition of teacher stress proposed by Kyriacou and Sutcliffe (1978a) emphasises the subjectivity of appraisal of a potentially stress producing situation (or stressor). Aside from those researchers discussed previously, support for the subjectivity of teacher stress appraisal is forthcoming from, among others, Fimian (1982), Finlay-Jones (1986), and McCormick and Solman (1990b). Indeed, these latter researchers, in accordance with comments made on the same issue in relation to stress in general, suggested strongly that subjective appraisal of a potentially stress producing situation in teaching coincided frequently with objective reality. Essentially, the concept of teacher stress is similar to that of stress in general but resulting from the conditions endemic in teaching, or teacher stressors.

An examination of the concept of teacher burnout reveals a similar situation. Farber and Miller (1981) commented that teacher stress is a concept which is related, but not identical, to that of teacher burnout. Bernard (1990) linked the two concepts more closely when he discussed the results of recent (unspecified) research which found that teachers who experienced teacher stress also reported greater burnout.

That a relationship exists between teacher stress and teacher burnout appears to be a common thread among opinions of researchers. Definitions of teacher burnout proposed by Blase (1982), Esteve (1989a), Knight (1982), Kyriacou (1987), McGuire (1979a) and Tuetteman (1988) referred to burnout occurring in teachers as a result of prolonged exposure, and unsuccessful attempts to remediate, stressors in teaching. Manifestations of burnout have been discussed in terms of Maslach's (1976) conceptualisation of burnout, but within the context of teaching.

Among the researchers who have made this application are Esteve (1989a), Gold (1984a), Kyriacou (1987, 1989), and Schwab and Iwanicki (1982a). Indeed, Schwab and Iwanicki's (1982a) definition of burnout neatly summarised the thoughts of these researchers in stating that burnout is "a perceived state of physical and emotional exhaustion, negative attitudes towards students, and lack of personal accomplishment." (p. 5)

The concept of teacher burnout is similar to that of burnout in general, but applied specifically to the teaching profession and conditions inherent within this profession. Teacher burnout appears to occur as a result of prolonged exposure to, and unsuccessful remediation of, stress. Manifestations of teacher burnout include physical, emotional and attitudinal aspects.

In essence, the concepts of teacher stress and teacher burnout are similar to that of stress and burnout in general, but explained in terms relevant to the teaching profession. Having established appropriate definitions of teacher stress and teacher burnout, reasons for concern about the occurrence of these phenomena, as discussed in the literature, will be examined.

Reasons for Concern About Teacher Stress and Teacher Burnout

Despite the plethora of research on teacher stress and teacher burnout, relatively few researchers have discussed reasons for concern about these phenomena, outside the specific limitations of their own research. However, those who have commented on this aspect have provided

comprehensive discussions on the reasons for concern about the occurrence of teacher stress and teacher burnout.

Essentially the reasons for concern about teacher stress and burnout address two interrelated issues, namely fiscal and personal costs. In a succinct comment Truch (1980, p. 10) stated, "It is impossible to put a price tag on human suffering." This comment is alluding to both the monetary cost encountered in treating and preventing stress, as well as the personal suffering of the victims of stress. The interrelationship of these two issues is demonstrated clearly by Kyriacou (1987, 1989) who suggested that prolonged occupational stress can lead to physical and mental ill-health. The consequences of this include a significant impairment of teacher-student relationships, a deterioration in the quality of teaching and increasing numbers of teachers claiming early retirement pensions due to stress-related ill-health. In Australia, the issue of anxiety stress claims was documented by Lister (1986) who showed that the number of claims, time lost and payment for anxiety stress claims in Victoria increased significantly during the period 1983 - 1986.

Further comments on the financial cost of teacher stress have been forthcoming from Truch (1980) on the issue of covering for increasing teacher absenteeism. In addition, Chakravorty (1989) suggested that the effect of stress-related teacher illness is a temporary or permanent loss of expensively trained teachers, with consequent disruption to teaching in schools. Indeed, given this scenario, the long term impact of the loss of teachers due to occupational stress may be quite severe, and difficult to determine. After all, how can the effects of the loss of experienced teachers on the social and economic characteristics of a society be quantified?

Possibly, with this question in mind, Fairley (1991) postulated that one result of being concerned with the occurrence of teacher stress and teacher burnout should be the implementation of policies aimed at mitigating the effects of those phenomena at their sources. In this way Fairley (1990) suggested that society may be able to avoid some of the costs associated with combating the effects of stress in teaching. Such reasoning may have been the background to the recently published document on ethos and purpose by the Ministry of Education of Western Australia (1991). Results of the present research could indicate the necessity for the rigorous application of the salient aspects outlined in this document.

Reasons for concern about the occurrence of teacher stress and teacher burnout, as discussed in the literature, pertain to the costs of these phenomena. Such costs were examined in both qualitative and quantitative terms. The adoption of pro-active, rather than re-active, policies was recommended in the literature. Given the need to be concerned about teacher stress and teacher burnout, the extent or prevalence of these phenomena should be ascertained.

The Prevalence of Stress in the Teaching Profession

The occurrence of occupational stress among members of the teaching profession is not confined to the twentieth century. Otto (1986a) traced the existence of stress among teachers back to the days of the Ancient Greek and Ancient Roman Empires. She also described how problems continued to occur through the Middle Ages, with little change during the Industrial Revolution. Truch (1980), in an examination of the history of teaching in North America, showed that from the early settlement period

teachers had rarely been regarded with high esteem. In the 1900's North American teachers were being treated virtually as wards of the state, and even in 1929 teachers' individual rights were being suppressed. Truch (1980) postulated that the majority of teachers being women at this time contributed to the prevailing attitude. The situation for Australian teachers was examined by Otto (1986a). She suggested that, since the country was founded just over two hundred years ago, Australian teachers have faced the same problems as those of their British counterparts, as well as problems generated by local conditions.

Precise measurement of the prevalence of occupational stress in the teaching profession has been a development of the twentieth century, particularly during the last twenty years. A variety of methods has been employed to measure the prevalence of occupational stress in the teaching profession. Such methods have included:

(a) a single-item rating question;
(b) multi-item measures;
(c) various forms of the General Health Questionnaire (Goldberg, 1972); and
(d) non-specified measurement techniques.

These methods all rely on self-report assessment. Kyriacou (1987) suggested that such measures are most useful, while Leach (1984, p. 158) asserted that, "Measures of teacher stress in schools, although based on self-report data, have been found to correlate significantly with other recognizable symptoms of stress." In addition to these comments, the emphasis on subjective perception of potential stressors within definitions of teacher stress, combined with statements by researchers

such as McCormick and Solman (1990a) on the coexistence of perceived and objective stressors, gives credence to the use of self-report measures. The following discussion will review the various methods employed by researchers in their measurement of the prevalence of occupational stress among teachers.

Single-Item Measurement

The most popular determinant of the prevalence of teacher stress has been the single-item question, and is best exemplified by Kyriacou and Sutcliffe (1977a) who posed the question, "In general, how stressful do you find being a teacher?" (p. 77). Responses to this question were rated on a five-point Likert-type of scale ranging from not at all stressful to extremely stressful. Researchers who have used a one-item question in subsequent research have either utilised this question (for example, Laughlin, 1984; Manthei and Solman, 1988) or derivatives of this question (for example, Milstein and Golaszewski, 1985; O'Connor and Clarke, 1990). Tables 3.1 - 3.3 summarise the results of the research, categorised by geographical area, which has measured the prevalence of stress in teaching using a one-item question.

In addition to the studies outlined in Tables 3.1 - 3.3, further examples of the use of a single-item question to determine the prevalence of stress among Australian teachers include Otto (1986a) and Bernard (1990). Lack of specific information on both the dates and sample characteristics of their research precluded the inclusion of the results of their studies in Table 3.3. However, the comments which each made on their respective investigations are worth reviewing.

Table 3.1

Prevalence of Stress in the Teaching Profession - Single-Item Question: Research in North America

Researcher	Sample Size (if given)	Sample Characteristics (if given)	Results
National Education Association (1938) (in Coates and Thoresen, 1976)	5150	all school types across varied geographic locations	37.5% reported feelings of considerable strain or tension
National Education Association (1951)	2200	all school types across varied geographic locations	41% reported feelings of considerable strain or tension
National Education Association (1967)	2290	all school types across varied geographic locations	16.2% reported feelings of considerable strain or tension; 51.7% reported feelings of moderate strain or tension
Newark Teacher Center (1979) (in Sparks & Hammond, 1981)		urban teachers in all school types	75% reported teaching to be at least moderately stressful; 41% reported teaching to be very or extremely stressful
Milstein & Golaszewski (1985)	78	elementary teachers	mean of 3.35 on a 5 point scale; one year later, after some teachers had participated in intervention studies, mean of 3.15

Table 3.2

Prevalence of Stress in the Teaching Profession - Single-Item Question: Research in the United Kingdom and Europe

Researcher	Sample Size (if given)	Sample Characteristics (if given)	Results
Kyriacou & Sutcliffe (1977a)	109	teachers in mixed comprehensive schools	29.3% rated teaching to be either very or extremely stressful
Kyriacou & Sutcliffe (1978b)	257	teachers in medium-sized mixed comprehensive schools	19.9% rated teaching to be either very or extremely stressful
Kyriacou & Sutcliffe (1979)	218	teachers in mixed comprehensive schools	23.4% rated teaching to be either very or extremely stressful
Tellenback, Brenner & Lofgren (1983)	(i) 1838	all school types across varied geographical locations	40.1% rated work to be always or often a mental strain
	(ii) 445	comprehensive teachers in one city	51% rated teaching to be very straining mentally
Trendall (1989)	237	primary, secondary and special school teachers	74% rated teaching to be either very or extremely stressful

Table 3.3

Prevalence of Stress in the Teaching Profession - Single-Item Question: Research in Australia and New Zealand

Researcher	Sample Size (if given)	Sample Characteristics (if given)	Results
Panckhurst (1982) Galloway, Panckhurst, Boswell, Boswell & Green (1984b)	296	state primary teachers	12.5% reported teaching to be very or extremely stressful; 50% reported teaching to be moderately stressful
Laughlin (1984)	493	state primary and secondary teachers	33.6% reported teaching to be either very or extremely stressful
Otto (1985b)	106	state secondary teachers	35% reported teaching to be either very or extremely stressful; 43% reported teaching to be moderately stressful
Chiu, Hosking, Fitzwater & McKenzie (1986)	1370	primary teachers	34.5% of male teachers and 30.1% of female teachers reported being stressed
Manthei & Solman (1986)	640	primary, intermediate and secondary teachers	27% reported teaching to be either very or extremely stressful
University of Melbourne (1989)	956	primary, secondary and technical government teachers	23% of primary, 21% of high, and 23% of technical teachers felt they were either often or very often under strain
O'Connor & Clarke (1990)	238	primary and secondary, government and non-government teachers	8% reported their job to be extremely stressful; 27% reported their job to be quite stressful

Otto (1986a) summarised the results of research which she conducted in the early 1980's among teachers from state high, primary and technical schools in and around metropolitan Melbourne. The results of her research showed that approximately thirty-three percent reported their jobs to be very or extremely stressful; about forty-five per cent reported moderate stress; and between twenty and twenty-five percent rated their jobs to cause little or no stress. Bernard (1990) discussed a study he conducted which involved over four hundred teachers in Western Australia and Victoria. His investigation found that twenty-six percent of teachers reported being very or extremely stressed, thirty-two percent were somewhat stressed, and forty-two percent were a little or not at all stressed. In a subsequent general discussion Bernard (1990) suggested that, at any one time, between twenty and twenty-five percent of teachers find teaching either very or extremely stressful, and fifty percent find teaching to be moderately stressful.

The reliability of a one-item question to assess the prevalence of stress in the teaching profession has been examined by Otto (1986a). In a reference to previous research conducted by herself in 1983 and Kyriacou and Sutcliffe (1978b), she discussed the strong correlations between the data obtained from a single-item question and a number of more detailed measures such as stress scores derived from multi-item measurement, reports of psychosomatic symptoms and stress-related medical consultations. Bernard (1990) stated simply that the use of a one-item question is the quickest way to assess the degree of stress being experienced (p. 46). By comparing the scores obtained from the single-item question and the Felt Effects Scale (Baldock, 1984) a measure of reliability for the former will be provided in the present study.

Measurement of the prevalence of stress in the teaching profession by a single-item question, as outlined in Tables 3.1 - 3.3, has shown stress to be widespread in terms of both time and geographical area. The results of the research have shown that the occurrence of serious levels of occupational stress in the teaching profession is neither a recent trend nor confined to any particular country. The accuracy of the use of a single-item question has been determined by comparing responses to this item with a number of other more detailed measures. Among such measures has been the use of multi-item responses, which some researchers have used as the sole measurement of the prevalence of stress in their own research.

Multi-Item Measurement

Two main approaches to the measurement of the prevalence of stress by multi-item methodology have been derived from the literature. The first approach is exemplified by Otto (1982), who determined the prevalence of stress by calculating a stress score from the responses to pre-structured items representing potentially stressful situations. The stress score represented the number of conditions which each teacher rated as having caused stress. Capel (1989) adopted a similar approach when she used the scales developed by Kyriacou and Sutcliffe (1978b). In addition, Capel (1989) also used the Maslach Burnout Inventory (Maslach and Jackson, 1981) to determine levels of burnout. A further example of the use of the Maslach Burnout Inventory (Maslach and Jackson, 1981) to assess levels of burnout among teachers was the research of Hock (1988). Earlier research by Gold (1984a) had demonstrated the factorial validity of the Maslach Burnout Inventory (Maslach and Jackson, 1981) for studying burnout among teachers.

The second multi-item measurement approach was that used by Kinnunen (1988). Teachers who participated in his research project had to make repeated assessments of mood variables throughout the study period. From the results of these assessments Kinnunen (1988) determined the prevalence of stress among the study group.

Table 3.4 summarises the results of the research which used a multi-item measurement approach to ascertain the prevalence of stress among teachers. The results displayed in this table reveal that stress and burnout are widespread in the teachers surveyed in these particular studies. In addition, these trends are evident in a variety of both teaching situations and geographical locations. Thus, the data obtained in relation to the prevalence of stress in the teaching profession by multi-item measurement techniques are similar to the results devised from a single-item measurement.

Aside from the use of the multi-measurement methods previously described, researchers have used another approach of this type, namely, the General Health Questionnaire (Goldberg, 1972). The next sub-section will be devoted to exploring the information obtained in studies which have used this particular instrument.

The General Health Questionnaire

The General Health Questionnaire (Goldberg, 1972) has enjoyed widespread support among researchers as a method for determining the prevalence of stress in the teaching profession. Studies in which this instrument has been used have been confined to the United Kingdom, Europe and Australia. Table 3.5 summarises the results of studies which

Table 3.4

Prevalence of Stress in the Teaching Profession - Multi-Item Measurement

Researcher and Geographical Area	Sample Size (if given)	Sample Characteristics (if given)	Results
Otto (1982) Australia	115	state high school teachers in Victoria	34% had a high stress-load; 27% had a medium stress-load; 39% had a low stressload
Hock (1988) North America	939	elementary, junior high and senior high school teachers in San Diego	40.8% had moderate or high levels of burnout
Kinnunen (1988) Europe	153	primary, lower secondary and upper secondary teachers in Finland	70% reported psychological stress symptoms; 30% did not feel stressed at all
Capel (1989) U.K.	78	high school teachers	19% had medium levels of stress; 81% had low stress levels; 49% had medium levels of burnout; 51% had low burnout levels

Table 3.5

Prevalence of Stress in the Teaching Profession - The General Health Questionnaire

Researcher and Geographical Area	Sample Size (if given)	Sample Characteristics (if given)	Results
Pratt (1978) U.K.	124	full-time primary school teachers	10.33% scored between 6-12; 16.09% scored between 13-22 (meaning 26.42% had scores which indicated a need for medical or psychiatric treatment
Galloway, Panckhurst, Boswell, Boswell & Green (1984a) New Zealand	296	primary school teachers	44% had scores above 6, which indicated a need for medical or psychiatric treatment
Mykletun (1984) Norway	1917	comprehensive teachers	37% had scores which indicated impaired quality of life
Finlay-Jones (1986); Louden (1987); Van Schoubroeck & Tuetteman (1986) Western Australia	2128	state primary, secondary, and technical and further education (T.A.F.E.) teachers	17% of the total sample had symptoms of severe psychological distress (18% primary teachers; 16% secondary teachers; 16% administrators; 16% T.A.F.E. lecturers)
Tuetteman (1988, 1991) Western Australia	574	full-time state secondary teachers	21.4% had high scores;; 23.2% had medium scores
Laughlin (1984) New South Wales	447	state school teachers	32.5% had a high disturbance rating
Manthei Solman (1988) New Zealand	663	teachers	33.5% had a high disturbance rating
Solman & Feld (1988) New South Wales (the above three studies were cited in McCormick & Solman 1990a)	513	teachers in Catholic Schools	33% had a high disturbance rating

Note: Finlay-Jones (1986), Louden (1987) and Van Schoubroeck and Tuetteman (1986) all discussed the same research project, while Tuetteman (1988, 1991) used a sub-set of the sample of this particular study.

have used the General Health Questionnaire (Goldberg, 1972) as the determinant of the prevalence of teacher stress.

Research which has measured the prevalence of stress using the General Health Questionnaire (Goldberg, 1972) has revealed the wide extent of stress being suffered by teachers. The results revealed in Table 3.5 have confirmed the trend uncovered by studies which have used either the single or multi-item measurement technique to determine the extent of stress in the teaching profession. Thus, the three different measurement techniques appear to have uncovered similar results. Unfortunately, not all the research reviewed in the literature specified the measurement methodology. Such research will be examined in the next sub-section.

Non-Specific Measurement Techniques

Among the studies which measured the prevalence of teacher stress, but did not outline the measurement methodology, was a study conducted in Western Australia (State School Teachers' Union of Western Australia, 1982), the geographical area of the present research. In addition, two studies were cited by Moracco, Danford and D'Arienzo (1982), and are interesting from a historical perspective. Table 3.6 presents a summary of these research projects which again reveals the widespread extent of stress in the teaching profession.

In summary, researchers have used a variety of measurement techniques to ascertain the prevalence of stress among teachers. Such techniques have included a single-item question, multi-item measures, and the General Health Questionnaire (Goldberg, 1972). The results obtained by each of these techniques, and the non-specified techniques, have

Table 3.6

Prevalence of Stress in the Teaching Profession - Non-Specified Techniques

Researcher and Geographical Area	Sample Size (if given)	Sample Characteristics (if given)	Results
Hick (1933) U.S.A. (in Moracco et al., 1982)	600	classroom teachers	17% were unusually nervous; 11% had suffered nervous breakdowns
Pock (1933) U.S.A. (in Moracco et al., 1982)		female teachers	33% suffered from nervous symptoms
State School Teachers' Union of Western Australia (1982)	156	state school teachers	41.2% indicated that they were under considerable personal stress

demonstrated the widespread prevalence of stress in the teaching profession. Such prevalence has not been confined to either particular geographical areas or specific periods of time. This would suggest that educational authorities have been inactive or ineffective in attempting to reduce the extent of stress in teaching. Given that the sources of teacher stress have been well documented in research, the persistently high levels of prevalence of stress tends to leave educational authorities exposed to some criticism. The following section of the literature review will examine research which has revealed the sources of stress in the teaching profession.

Sources of Stress in the Teaching Profession

Sources of occupational stress for members of the teaching profession have received extensive coverage in the literature. As a consequence of this extensive coverage any discussion of the literature which has examined the sources of teacher stress should be embodied in a structured framework. Such a framework should allow comparisons to be made between the different approaches used by researchers to appraise the sources of stress in teaching. In addition, this framework should be able to compare, on geographical and chronological bases, the discussions emanating from the literature.

The framework utilised for the following discussion on the sources of stress in teaching was derived from an examination of the basis of the researchers' discussions, categorised by the geographical areas outlined in the qualitative meta-analysis of the literature. Three themes were derived from the relevant literature. The first of these themes comprises studies which used quantitative methodologies to derive stress factors

from a relatively extensive list of potentially stressful events. Some of these studies also used qualitative approaches to complete analysis of the obtained information. The second theme includes research undertaken which applied quantitative methodologies to previously developed instruments or to a specified number of potentially stressful events. The third theme is characterised by investigations based on qualitative information, most of which was obtained from interviews, observations or open-ended questions. The findings of research undertaken within these three themes form the basis of the following discussion.

Extensive Quantitative Studies

Research discussed in this category has analysed quantitatively teachers' ratings of a relatively extensive list of potentially stressful events. The basic method utilised has been factor analysis, either as an approach within itself (for example, Clark, 1980) or as part of structural equation modelling. The latter approach has become more noticeable in research conducted since the beginning of the 1980's, for example, Tellenback, Brenner and Lofgren (1983). Such studies have developed data-based models of teacher stress. Either way, the net result has been the identification of a number of stress factors in the teaching profession. Findings of research conducted on sources of teacher stress in North America, Britain, Europe, Australia and New Zealand have been summarised in Tables 3.7 - 3.10.

Table 3.7

Sources of Teacher Stress (Extensive Quantitative Studies) - North American Research

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
National Education Association (1951)	2200	Rural and urban; elementary and secondary teachers.	Closed - and open-response questions on teaching load and working conditions.	General factors identified as causing pressure included numbers or types of pupils; inadequacy of school facilities; requirements of extra-curricular responsibilities; professional improvement requirements; changing emphasis in classroom methods and procedures; community relationships; guidance and pupil, adjustment responsibilities; school and district level administrative practices; clerical and administrative work; requirements of instructional planning and class preparation.
Cichon & Koff (1980)	4934	Elementary, junior/ middle high school, high school teachers.	36 closed-response questions.	Four clusters of stressors identified, in order of importance - violence and student discipline; management tension; doing a good job; pedagogical functions.
Clark (1980)	640	Public school teachers.	97 item closed-response questionnaire.	30 item, 5 factor instrument resulted-factors, in order of importance, included professional inadequacy; principal-teacher relationships; collegial relationships; group instruction; job overload.
Pettegrew & Wolf (1982)	264	Junior and senior high school teachers.	64 item closed-response questionnaire.	46 item, 9 factor instrument resulted - factors included role ambiguity; role overload; role conflict; non-participation; job satisfaction; task stress; supervisory support.
Fimian (1984b)	741 433	Special education teachers. Regular education teachers.	36 item closed-response questionnaire.	6 factors identified from measurement of stress strength and stress frequency; 3 factors which caused stress - personal/ professional stressors; professional distress; discipline and motivation; 3 factors related to manifestations of stress - emotional; behavioural; physiological fatigue.

Table 3.7 (Continued)

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Hock (1988)	939	Elementary, junior high and senior high school teachers.	34 closed-response and 1 open-response questionnaire.	Top 5 stressors, in order of importance - increased paperwork; public image of teachers; low salary; no participation in decisions about job; classroom discipline difficulties: top 5 causes of burnout - feelings of being trapped in the profession; classroom discipline difficulties; isolation from peers and colleagues; lack of support for for professional problems; lack of support for personal problems.
De Frank & Stroup (1989)	245	Elementary teachers.	Teacher Occupational Stress Factor Questionnaire (Clark, 1980) and 1 open-response question.	4 factors isolated from T.O.S.F.Q., in order of importance - intraschool conflict; student issues; salary concerns; incompetent teachers; top 5 categories from replies to open-response question - evaluation/ appraisals; lack of time; day-to-day teaching concerns; extra-curricular responsibilities; parental problems.

Aside from the studies summarised in Table 3.7, three other North American research activities provide some useful information on causes of teacher stress. The characteristics of these research undertakings did not adhere to the established criteria for inclusion in the tabular summary. The first of these studies was that undertaken by Coughlin (1970). A questionnaire containing one hundred and seventy-six statements on the work environment was administered to a sample of one thousand one hundred and ninety-nine elementary, junior high school and senior high school teachers. From the obtained data, Coughlin (1970) identified thirteen factors which affected teacher morale. Five of these factors related to administrative operations, three factors were classified as working relationships, two factors pertained to school effectiveness, and three factors were classified as career fulfilment. Although this study was not investigating stress *per se*, the factors which were discovered to affect teacher morale are essentially the same as those identified in Table 3.7 which influenced teacher stress. Such findings suggest that a relationship may exist between teacher morale and teacher stress.

Ianni and Reuss-Ianni (1983) outlined the results of research undertaken by the former in conjunction with the National Institute of Education. This particular study consisted of three phases - a mail survey, an on-site survey, and an ethnographic study. The results revealed the importance of strong leadership, as exhibited by the principal, to be of importance in the reduction of apprehension and stress among teachers. The influence of school administrative characteristics on teacher stress was also described in Table 3.7.

The third researcher whose work could not be classified in the previous table was Blase (1982). His research, based on both qualitative and

quantitative data obtained from forty-three high school teachers, resulted in the formulation of the Teacher Performance-Motivation Theory. Within this theory, Blase (1982) categorised stressors as being either first- or second-order. He suggested that first-order stressors interfered directly with teachers' efforts, while second-order stressors posed an indirect influence. Although applying such a classification, Blase (1982) was adamant that each category of stressor can be equally difficult to counter.

Overall, the North American research discussed in this sub-section presented a thorough account of the occupational stressors which influence teachers. Although some variation existed between the results of the studies analysed, due to the size of the questionnaire or situational factors, a relatively consistent pattern emerged. Other information discussed from these studies include the similarity in the causes of teacher stress and teacher burnout, as well as teacher morale and teacher stress. Furthermore, stressors in the teaching profession may be categorised as either direct or indirect, although such classification does not allude to the ease of managing such influences.

The results of research conducted in Britain and Europe are summarised in Table 3.8. The number of stress factors identified in each study varied, probably influenced by instrument size. Furthermore, the labelling of such factors also differed between studies, as would be expected with different items being apparent in each of the instruments. Overall, the stressors summarised in Table 3.8 present a thorough review of the causes of occupational stress among teachers in Britain and Europe. The stressors identified from the British and European studies are similar to those which affect North American teachers. These included events relating to time

pressures; pedagogical tasks; school and system-level influences; and professional concerns.

The outcomes of research conducted in Australia and New Zealand are presented in Table 3.9. A noteworthy trend in the Australian and New Zealand studies is the number of research activities undertaken since the mid-1980's. Such a trend reflects the comparative infancy of the study of teacher stress in Australia and New Zealand. This observation aside, the studies which have been undertaken surveyed large numbers of teachers, mainly employed in government school systems.

Consequently, a thorough account of the causes of stress among teachers in government schools has emerged. The stress factors which affect teachers in Australia and New Zealand are similar to those reviewed in other geographical areas. However, there were three factors isolated in some of the Australian studies which did not emerge consistently in Britain, Europe and North America.

First, Fisher's (1983) research found climatic effects to be a stressor. As this study was undertaken in the Northern Territory, where extremely hot and humid conditions prevail, such a finding is probably understandable. Second, the studies in Victoria completed by Chiu, Hosking, Fitzwater, and McKenzie (1986) and the University of Melbourne (1989) revealed the amount and speed of change as a source of stress. Given the almost total restructuring of the Victorian government education system which has occurred since the early 1980's, some comment on the stressful aspects of change would be expected. The impact of change on teachers in Britain, Europe and North America has not been ignored. To some extent change can be subsumed into the "time" stress factor. In addition,

qualitative-based research in these areas has investigated change as a source of teacher stress. The third stress factor was the integration of disabled children into the normal classroom (Chiu et al., 1986), another example of government initiated change in Victorian schools.

Two further research undertakings, which could not be presented easily in tabular form, are worthy of discussion. First, Bruce and Cacioppe (1989) investigated the reasons for resignation among a group of one hundred and twenty-four secondary teachers. Their results showed that two major reasons for resignation were principal incompetence and problems with classroom discipline. Another cause of resignation was lack of opportunity for promotion, while lack of effective school policies and administrative support compounded classroom discipline policies. A comparison between the reasons for resignation discovered by this study and the causes of stress summarised in Table 3.9 suggests that the causes of resignation are similar to teacher stressors.

Previous discussion on Coughlin's (1970) research into teacher morale found similarities in the factors which affect this phenomenon and teacher stress. Although Bruce and Cacioppe's (1989) research was based in Western Australia and Coughlin's (1970) research was undertaken in North America, the results of each investigation suggest the possibility of a relationship between morale, stress and reasons for resignation in the teaching profession. If such a relationship does exist then the implementation of policies designed to improve morale or stress may have a multi-faceted impact in that morale may improve, while stress and resignation levels may decline.

Table 3.8

Sources of Teacher Stress (Extensive Quantitative Studies) - British and European Research

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Pratt (1978)	124	Full-time primary teachers.	43 closed-response items.	5 main areas from which stress arose - a general inability to cope with teaching problems; non-co-operative children; aggressive children; concern for children's learning; staff relationships.
Kyriacou & Sutcliffe (1978b)	257	Teachers from medium-sized, mixed comprehensive schools.	51 closed-response items.	4 stress factors, in order of importance - pupil misbehaviour; poor working conditions; time pressures; poor school ethos.
Tellenback, Brenner & Lofgren (1983)	2283	Comprehensive school teachers.	41 closed-response items.	Pupil-related stresses most important, followed by time-related and management related stresses.
Mykletun (1984)	917	Comprehensive school teachers.	74 closed-response items.	Nine stress factors identified, in order of importance - work overload; organisational climate and staff relations; pupil behaviour disturbance; change; lack of teaching aids and professional support; individual teaching; overcrowding and poor room conditions; critical parents; career.

Table 3.9

Sources of Teacher Stress (Extensive Quantitative Studies) - Australian and New Zealand Research

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Otto (1982)	115	High school teachers.	40 closed-response items.	8 factors emerged - workload and time pressures; students; promotion chances, pay and security; alienating administrative structures and staff tensions; role ambiguity and lack of advice; role constraints on self-expression; inadequate teaching equipment and physical conditions; alienation in relation to Education system.
State School Teacher's Union of Western Australia (1982)	154	All school types and geographical locations (government teachers).	Not given.	6 factors emerged - stressors inherent to the nature of teaching; stressors produced by the school environment; community factors; interpersonal relations; role conflicts and role inflation; personality types.
Fisher (1983)	786	Government early childhood, primary and secondary teachers.	67 closed-response items.	8 factors determined - student-teacher relationships; staff politics; role conflict; time pressures; extra-organisational pressures; teaching task ambiguity; student home support; climatic effects.
Chiu, Hosking, Fitzwater & McKenzie (1986)	1370	Primary teachers.	13 stress factors listed in the questionnaire: closed-response items.	In order of importance the factors were - role overload; discipline; too many changes too quickly; lack of support from senior staff; negative community attitudes; attendance at meetings; frustration in career opportunities; conflict with other staff; lack of equipment; integration of disabled children.

Table 3.9 (Continued)

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Dewe (1986)	800	Primary teachers.	60 closed-response items.	6 factors identified, in order of frequency - work overload; expectations of parents; relationships in the classroom; unsupportive parents and difficult children; physical demands of teaching; little individual control over school events.
Finlay - Jones (1986); Van Schoubroeck & Tuetteman (1986); Louden (1987)	2138	Government primary and secondary teachers; school administrators; technical and further education (T.A.F.E.) lecturers from a wide range of geographical locations.	Closed-response items on the work environment; open-response item on causes of stress.	16 factors in the teaching environment were associated with psychological distress, summarised under 6 themes - student misbehaviour; time spent on teaching and related duties; relations with other staff; physical characteristics of the school; conditions of employment; critical community attitude towards teachers; all factors were not the same for every one of the four groups surveyed. 7 factors significant for primary school teachers, in order of importance - student misbehaviour; lack of emotional support from other teachers; invasion of spare time by work; involuntary transfer; poor classroom design; undesired full-time work; involvement in educational research projects.
Tuetteman (1988)	574	Government secondary teachers from a variety of geographical locations - a subset of the study reported by Finlay - Jones (1986), Van Schoubroeck & Tuetteman (1986), and Louden (1987).	Closed-response items on work environment; open-response item on causes of stress.	8 factors related to psychological distress - inadequate access to facilities and staff amenities; lack of sense of achievement/efficacy; perception that society expects too much of teachers; student misbehaviour; intrusion of school work into out-of-hours time; lack of collegial support; lack of praise/recognition; lack of influence/autonomy.

Table 3.9 (Continued)

Researcher	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
University of Melbourne (1989)	956	Government primary, high and technical teachers from a variety of geographical locations.	Closed-response items and open-response items.	Stressors similar to the three groups surveyed were style of school administration; staff relations; teaching stressors; Ministry stressors; staff appraisal. Other stressors in the high and technical schools were adequacy of career structure; teacher consultation policy; discipline policy, social support from school administration; social support from other teachers (high schools only). Most commonly listed sources of stress from open-response items were student misbehaviour; self doubts/ lack of recognition/lack of promotion and career prospects; negative attitudes and lack of motivation in students; discipline policy and problems; problems with other teaching staff; time allocation and determining priorities; demands and expectations of parents and community; school administration and the principal; changes - too many, too often.
McCormick & Solman (1990b)	111	Government primary and secondary; metropolitan and non-metropolitan teachers.	40 closed-response items.	4 factors isolated, in order of importance - external domain (society or Education Department); student domain; school domain; personal domain.
Smith & Bourke (1990)	204	Government secondary schools (Hunter Region).	Developed from Otto (1982) plus 18 items on workload.	4 latent stress factors identified - conflict (staff and role); students and physical conditions; time pressure; rewards and recognition: teacher workload conceptualised as a stressor and an influence on the above 4 factors.

The second researcher whose work could not be included easily in Table 3.9 was Bernard (1990). This particular researcher made reference to three studies which he pursued in the late nineteen eighties. Unfortunately, he did not outline the questionnaire characteristics, nor were sample sizes always specified precisely. The first of Bernard's (1990) studies was undertaken in 1987. This research project involved seven hundred and ninety-two Victorian teachers across all school types and systems. His second study, which occurred in 1988, involved one hundred and forty Victorian teachers across all school types and systems. The third study, implemented in 1989, included over four hundred Victorian and Western Australian teachers. These three studies produced similar results which indicated that the most stressful problems facing teachers included student-, time- and workload-related pressures; career problems; and policy changes. Bernard's (1990) findings, therefore, reflect those summarised in Table 3.9.

Given the geographical location of the present study, comment on Western Australian studies into causes of teacher stress beyond a tabular summary is appropriate. The outstanding feature is the paucity of extensive research undertakings on teacher stress in Western Australia. Two studies are listed in Table 3.9. The first of these research projects (State School Teachers' Union of Western Australia, 1982) had a response rate of just over twenty-five percent and a subsequent relatively small sample size. The impact of this study was the catalyst for a joint Union-Education Department investigation implemented in 1984. This study, which has been reported widely (Brown, Finlay-Jones and McHale, 1984; McHale, 1984; Finlay-Jones, 1986; Van Schoubroeck and Tuetteman, 1986; Louden, 1987; Tuetteman, 1988, 1991) represents the only extensive research undertaking into teacher stress in Western

Australia. The official report of this 1984 study was not published until 1986 (Van Schoubroeck and Tuetteman), while the less technical summary report appeared in 1987 (Louden). Such a time-lag is a cause of some bewilderment, especially as large numbers of teachers had contributed to the data and the overall results produced the first thorough review of Western Australian teachers' working conditions. Apart from identifying aspects of the working environment associated with psychological distress, the study showed that teachers in different school types varied in their perception of conditions which caused concern.

Teachers who participated in the 1984 study rated various aspects of the teaching environment on a fixed scale and completed one open-ended question on occupational causes of stress. The degree of psychological distress was determined by responses to the thirty-item General Health Questionnaire (Goldberg, 1972). Multiple regression analysis was used to determine the association between the various teaching environment factors and psychological distress. Unlike the present study, participants were not asked to rate a series of potentially stressful events or the degree of stress experienced as a result of teaching in general. The present investigation also differed from the 1984 research in that the questionnaire included a stress measurement instrument developed from research in an educational institution (Baldock, 1984).

The studies reviewed in this sub-section have been based mainly on a statistical analysis of data, with some researchers, for example De Frank and Stroup (1989) and the University of Melbourne (1989), also having collected qualitative information. Such qualitative information reflected the results of the statistical analyses. Two main quantitative approaches were discussed: factor analysis in association with multiple regression

analysis, and structural equation modelling, with the latter methodology being used more frequently in recent studies.

The factors which cause stress among teachers have been found to be similar in the geographical areas discussed. Essentially, such factors included time pressures, pedagogical tasks, school- and system-related influences, and professional concerns. Some variation in the number and labelling of factors identified occurred, mainly due to differences in questionnaire construction and sample selection. In addition, the possibility of a relationship between teacher stress, teacher morale and reasons for teacher resignation was postulated.

With the present study being conducted in Western Australia, extra attention was devoted to a discussion of research undertaken in this geographical area. Only one investigation of any significance was discovered to have been implemented in Western Australia. This particular project has been reported widely, but no follow-up studies were discovered. Comparisons were made between the characteristics of this study and the present research, which demonstrated the greater level of analysis of the latter.

Limited Quantitative Research

Studies to be discussed within this sub-section include those which investigated either previously developed instruments or which used a specified number of potentially stressful items as part of the overall research project. The value in reviewing such research relates to the discovery of variations in either the ranking or labelling of stressors.

Research Involving Previously Developed Instruments

Two examples of studies conducted in North America, which investigated previously developed instruments were Moracco, Danford and D'Arienzo (1982) and Schutz and Long (1988). The results of the latter two studies are summarised in Table 3.10.

The results of research which has implemented previously developed stress measurement instruments has demonstrated that, in general terms, such instruments can be used with the various types of regular school teachers. In specific terms, some readjustment of factor ranking, structure and nomenclature was evident, but this did not necessarily detract from the usefulness of the particular instrument.

Research Involving a Specified Number of Stressors

Researchers who have used a specified number of potentially stressful situations within their study instrument have been interested in obtaining information on one or more aspects. The first of these aspects involved the rank ordering of stressful situations as perceived by teachers or which factors are the best predictors of stress. The investigation of specific stressors and their relationship to other variables comprised the second aspect. A direct comparative analysis between stressors as identified by teachers in different countries or in different locations characterised the third aspect. The fourth aspect included the perceived importance of potential stressors when categorised by socio-biographical characteristics. This sub-section will concentrate on the initial three categories.

Table 3.10

Research Involving Previously Developed Teacher Stress Instruments

Researcher	Sample Size	Sample Characteristics	Instrument Investigated	Results
Moracco, Danford & D'Arienzo (1982)	691	Metropolitan elementary, middle, junior high, high and special education teachers.	Teacher Occupational Stress Factor Questionnaire (Clark, 1980).	5 factors in rank order - administrative support; working with students; financial security; relationships with teachers; task overload. Clark's (1980) results - 5 factors in rank order: professional inadequacy; principal/teacher professional relationships; collegial relationships; group instruction; job overload. Cichon & Koff's (1978) results - 4 factors in rank order: priority concerns; management tension; doing a good job; pedagogical functions.
Schutz & Long (1988)	1486	Metropolitan elementary and secondary teachers.	Teacher Stress Inventory (Pettegrew & Wolf, 1982).	36 item, 7 factor inventory: role ambiguity; role stress; organisational management; job satisfaction; life satisfaction; task stress; supervisory support. Pettegrew & Wolf (1982) - 46 item, 9 factory inventory: role ambiguity; role overload; role conflict; non-participation; job satisfaction; management style; life satisfaction; task stress; supervisory support.

The results of the research in the first two categories are summarised in Table 3.11. Studies presented in this table are dated from the early 1980's and encompass a variety of geographical areas. A range of teacher types have been investigated, with some researchers concentrating on one teacher type while other researchers included in their sample representatives from different school levels.

Within the results of the studies outlined in Table 3.11 some consistent trends are evident. Time, workload pressures and student-related issues were almost invariably among the three most important stressors. The perceived importance of other stressful situations varied between studies. Such variation seemed to be independent of geographical location, with sample characteristics appearing to be the most likely influential variable. Indeed, the intensification of stress sources as a result of feeling threatened (Dworkin, Haney and Telschow, 1988) is an example of this suggestion.

Three further findings of research projects which have explored the nature of specific stressors in detail are worth noting. First, Otto (1985b) and McCormick and Solman (1990b) found that teachers tended to externalise the blame for sources of occupational stress. Both of these studies commented that teachers who perceive a powerlessness to control stressors were apt to be more stressed. Although not stated specifically, other studies have implied the externalised nature of stressors. Teachers have little influence over aspects such as class sizes, demands on time, curriculum changes, discipline procedures, administrative policies, administrative practices and workload demands. Thus, the

Table 3.11

Research Which Determined the Importance of Teacher Stressors (Limited Specified Choice)

Researcher and Geographical Area	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Galloway, Panckhurst, Boswell, Boswell & Green (1984b) New Zealand	296	Primary school teachers.	Rated 34 items (modified from Pratt, 1978).	Children's behaviour and educational progress emerged as most important sources of stress.
Laughlin (1984) Australia	493	Primary and secondary government school teachers.	Rated 20 items.	4 stress factors, in order of importance - pupil recalcitrance; time/resource difficulties; professional recognition needs; curriculum demands.
Milstein, Golaszewski and Duquette (1984) North America	130	Elementary teachers.	Rated perception of 35 items covering 5 categories of organisational stressors.	In order of declining importance - career development; organisational structure and climate; relationships at work; factors intrinsic to the job; role in the organisation.
Sutton (1984) North America	182	Elementary, junior high and senior high school teachers.	Structured interview and 13 item questionnaire covering 3 factors - instructional problems; role demands; interpersonal relations.	Most potent forms of stress, in order of importance - role demands; instructional problems; interpersonal relations.
Abbey & Esposito (1985) North America	191	Elementary teachers.	Fixed response items in relation to perception of compliance system of principal and perception of social support.	Teachers perceive more social support, and presumably less stress, from principals who use referent and expert compliant systems, rather than reward, coercive or legitimate systems.
Milstein & Golaszewski (1985) North America	73	Elementary teachers.	12 month study which measured effects of intervention strategies. 5 categories of stressors measured (Milstein et al., 1984).	The consistently highest ranked stressors focussed on the classroom; lowest ranked stressors related to organisational expectations and role clarity.

Table 3.11 (Continued)

Researcher and Geographical Area	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Otto (1985b) Australia	106	Secondary teachers.	Rated 10 items for occurance and degree of ability to influence (degree of powerlessness).	Dominant stressors, in order of importance - workload pressures; student-related problems; staff differences on educational philosophy; lack of positive feedback; inadequate facilities; disagreement with policies of Education Department. Sources of stress perceived to be located in external environment - Education Department, school, society.
Ramchke, Dedrick, Strathe & Hawkes (1985)	230	Elementary teachers.	Rated 11 potentially stressful items.	In rank order - lack of time to accomplish tasks; disruptive students; non-teaching duties; student apathy; dealing with multi-ability students; financial pressures; lack of support from parents/community; lack of positive feedback from administrators; lack of input into curricular/ administrative decisions; lack of recognition for teacher excellence; lack of colleague support.
Dworkin, Haney & Telschow (1988) North America	281	Elementary, junior high and senior high school teachers.	Rated 15 items.	Highest levels of stress associated with salary and benefits; student discipline; teaching load; interaction with administrators. Fears of violence and victimisation experiences were anxiety-producing factors. Sources of stress more meaningful if teachers feel threatened.
Manthei & Solman (1988) New Zealand	640	Primary, intermediate and secondary teachers.	Rated 24 items.	7 factors in order of importance as related to general stress - time demands; low professional recognition; pupil recalcitrance; poor working environment; community antagonism; poor remuneration; curriculum demands.

Table 3.11 (Continued)

Researcher and Geographical Area	Sample Size	Sample Characteristics	Questionnaire Characteristics	Results
Friesen and Sarros (1989) North America	128 635	School-based administrators. Elementary, junior high and senior high school teachers.	Maslach Burnout Inventory (Maslach & Jackson, 1981); single item question on stress; fixed-response job characteristics and job satisfaction items.	Work stress major predictor of emotional exhaustion; job challenge major predictor of depersonalisation; other predictors were work stress and satisfaction with workload; satisfaction with status and recognition; and job challenge major predictors of personal accomplishment.
Trendall (1989) Britain	237	Primary, secondary and special education teachers.	Rank-order 5 stressors from a list of 20.	Most apparent stressors - lack of time; large classes; teaching workload; pupil misbehaviour.
O'Connor & Clarke (1990) Australia	238	Primary and secondary, government and non-government teachers.	Rated 22 items (from Otto, 1986a).	4 factors in order of importance - time and workload pressures; student factors; relations with the organisation and negative community attitudes; problems with school administration and staff tensions.

powerlessness which teachers perceive in regard to their ability to influence some stressors reflects the reality of the situation. Indeed, De Frank and Stroup (1989) commented on this very issue.

Second, Abbey and Esposito (1985) concentrated on school administrative practices when they examined the relationship between the compliance system (administrative practices) of the principal and the perception of social support. Their findings indicated that the availability of social support, and levels of stress, were dependent upon the compliance system used by the principal.

Third, Friesen and Sarros (1989) investigated overall work stress, job characteristics and job satisfaction as predictors of teacher burnout. The results of their research reinforce previous comments about the existence of a relationship between stress and burnout. For example, this study found that status and recognition were predictors of the burnout sub-scale "personal accomplishment". These two variables have also been cited by teachers as causes of occupational stress.

An example of research which has analysed stressors as perceived by teachers in different countries is that undertaken by Dunham (1980). His sample included fifty-nine German and sixty-nine English comprehensive teachers. The identified sources of stress were similar for each group (rapid growth in the numbers of students and colleagues; many meetings; difficulties in receiving the correct information about administrative decisions; the unco-operative and disruptive behaviour of students). However, the English teachers also expressed concern about role confusion and role conflict. Such stressors emanated from their responsibilities as both subject teachers and members of the pastoral

care system in their schools. Thus, the additional sources of stress cited by the English teachers result from differences in the respective educational systems. Although many of the identified stressors were similar, the issues of role conflict and role confusion, in this particular study, were peculiar to English comprehensive teachers. The findings of Dunham (1980) reinforce the results outlined in Tables 3.9 and 3.11 in which variations in either the ranking or identification of stressors were partially attributable to geographical location.

The National Education Association (1978) instigated a study which compared rural and urban teachers. The study concentrated specifically on student violence, physical attacks and damage to personal property. Included among the findings were that more urban than suburban or rural teachers reported school violence as a problem and were more subject to a higher incidence of personal attacks. The results of this study are similar to those reported by Moracco et al. (1982), who showed that urban and non-urban teachers reported different stressors.

Overall, research which used a specified number of potentially stressful situations to determine their perceived importance ascertained that time demands, workload pressures and student-related issues predominate as the most important stressors. Furthermore, other issues explored by studies involving limited stressors included the externalised nature of teacher stressors; the importance of school administrative practices on the perception of social support and degree of felt stress; and further evidence on the relationship between stress and burnout. In addition, Dunham's (1980) study revealed that while similarities exist in the perception of stressors by teachers in different countries, dissimilarities can occur. Finally, the National Education Association (1978) reported

that school violence and personal attacks on teachers were more noticeable in urban schools.

Qualitative Research

Qualitatively-based research related to the issue of teacher stressors has gathered information through interviews, open-ended questions and/or observation. The results of such research are presented in Table 3.12. With the exception of studies undertaken by Mager, Myers, Maresca, Rupp and Armstrong (1985) and Chakravorty (1989), which did not seek to list sources of stress, qualitative studies have identified essentially the same stressors as revealed by quantitative methodologies.

The investigation by Richards and Johnson (1985) is of interest due to the use of the nominal group technique as a means to identify stressors. Blase's (1986) comment on the centrality of time as a teacher stressor not only has support in quantitative research but also suggests the existence of a possible casual relationship. Such an issue could be explored using the methodology of structural equation modelling. A further issue of interest is the identification specifically of political aspects (Farraguia, 1986), an issue not always recognised overtly in other studies, but considered part of external influences.

Three other studies are worthy of further consideration because of their concentration on the influence of change. Dunham's (1976) research considered the impact of the introduction of the comprehensive school system, and his results should prove of interest to authorities which are considering major system-level reorganisation. The findings of Chakravorty (1989) provided further insights into the

Table 3.12

Identification of Teacher Stressors by Qualitative Methodologies

Researcher and Geographical Area	Sample Size	Sample Characteristics	Methodology	Results
Dunham (1976) Britain	658 152	Infant, junior and secondary school teachers. Tertiary teachers.	Written and oral reports.	Most commonly reported stress situations were reorganisation; role conflict; role ambiguity; poor working conditions.
Fordham & Hunt (1984) Australia	380	High school teachers.	Open-ended question to identify 3 most difficult problems.	Categories of problems identified were student-related problems; lack of relevance of curriculum; resources; school organisation; career; system-level problems.
Richards & Johnson (1985) North America	55	Elementary teachers.	Nominal Group Technique.	Identified, in rank order, intensity of work demands; student misbehaviour; lack of administrative support; inadequate compensation; lack of community support; meaningless job demands; large class sizes.
Mager, Myers, Maresca, Rupp & Armstrong (1985) North America	24	Elementary, junior, middle and senior high school teachers.	Interviews on change in situation.	Three stress points emerged - events of reassignment; setting directions; the success drive: the characteristics of each point influenced the degree of felt stress.
Mykletun (1988) Norway	73	Comprehensive school teachers.	Structured interview.	Sources of stress same as those identified by Kyriacou and Sutcliffe (1977b) and Mykletun (1984).
Chakravorty (1989) Britain	1552	Primary and secondary teachers in one education district.	Observation of prolonged sickness absence.	Peak incidences of mental health occurred when system-level reorganisation was implemented.
Cox, Boot & Cox (1989) Britain	Not Specified	All teacher types.	Evaluation of workshops.	5 main sources of stress identified - training and career development; inherent in the job; personal characteristics; school organisation; management and culture; external to school.

Table 3.12 (Continued)

Researcher and Geographical Area	Sample Size	Sample Characteristics	Methodology	Results
Blase (1986) North America	392	Elementary, junior, middle and senior high school teachers.	Open-ended questions.	Factors most frequently related to stress were organisational; student; administrative; and teacher-related: these factors were perceived as interfering with time resources, with consequent qualitative and quantitative overload: overall impact of stress made achievement of goals with students difficult or impossible.
Farrugia (1986) Malta	186	All types of teachers.	Open-ended questions.	Factors which caused frustration were: intrinsic - students' lack of interest and motivation to learn; not teaching favourite subject: interjacent - lack of appreciation from parents and authorities; administrative interference; incompatability with colleagues; influence of political polarisation on school affairs: extrinsic - poor salary and conditions of work; extra lessons due to absent colleagues.

effects of system-level change when he highlighted the coincidence of peak incidences of mental health problems with change. The study conducted by Mager et al. (1985), pin-pointed different stages in the change process at which stress can occur. Their study provides information from which policies to combat the effects of change can be derived.

Essentially, qualitatively-based research has confirmed the findings of quantitative research in relation to stressor identification. The flexibility of qualitative approaches has been evidenced by studies which have examined specific aspects of change. The findings of such research should provide cogent guidelines for educational authorities which are considering alterations within their school systems.

Summary

This section of the literature review discussed research which has examined the sources of teacher stress. A framework was devised for the discussion which included extensive quantitative research, limited quantitative research and qualitatively-based research. Such a framework allowed for comparisons to be made, where appropriate, between studies on chronological and geographical bases.

Extensive quantitative research which examined sources of teacher stress in North America, Britain, Europe, Australia and New Zealand was reviewed. The findings of such research indicated that the causes of stress are similar for teachers in a variety of countries. These stressors include time pressures; pedagogical tasks; school- and system-related influences; and professional concerns. Variations, which seemed to be

attributable to instrument and sample characteristics, were noted in the number and labelling of identified stress factors. The lack of extensive research into teacher stress in Western Australia was discussed, as were the results of the only large-scale research undertaken in this location.

Studies classified as limited quantitative research investigated either previously developed instruments or examined a specified number of potentially stressful items. Results from research in the first category suggested that, in general, previously developed instruments are quite useful. However, variations in factor labelling, structure and ranking should be expected. Research in the second category revealed that time demands, workload pressures and student-related issues predominated as the most important stressors. The importance of these stressors was also noted in extensive quantitative research. Furthermore, although teachers in different countries or locations experience generally the same stressors, variations in perceived importance and quantity of stressors have been discovered.

The causes of teacher stress revealed by qualitative research are similar to those determined by quantitative methodologies. Within this type of research specific aspects of change were investigated. The information revealed by these particular studies should be of value to educational authorities which are planning changes to their school systems.

Overall, the stressors which affect teachers have changed little over time. Some variations do exist, and seem to be dependent upon geographical area and year level taught. The latter issue is explored in the next section of the literature review, which examines socio-biographical characteristics of teachers, stress levels and stressors.

Perceptions of Stress and Stressors Categorised by Socio-Biographical Characteristics

The present study explored differences in the perceptions of stress and stressors when categorised by the socio-biographical characteristics of teachers. Such characteristics include sex, age, length of teaching experience, year level taught, level of qualification, type of employment and category of employment. Accordingly, the literature reviewed in this section will concentrate on research which has investigated differences in perceptions of stress and stressors when categorised by these socio-biographical characteristics. The findings of research discussed in this section represent studies which have investigated differences in the perceptions of stress and stressors when categorised by the socio-biographical characteristics previously outlined. However, not all studies discovered consistently significant relationships between these variables.

Sex

Differences in the perceptions of overall stress levels based on the sex of teachers have been examined in studies throughout different geographical areas. North American investigations have included Cichon and Koff (1980), Dworkin et al. (1988), Harris, Halpin and Halpin (1985) and Russell, Altmaier and Van Velzen (1987). Examples of British and European research have comprised Kinnunen (1988), Kyriacou and Sutcliffe (1977a, 1978b, 1979a), Mykletun (1984), and Tellenback, Brenner and Lofgren (1983). Studies in Australia and New Zealand have been conducted by Laughlin (1984), O'Connor and Clarke (1990), Otto (1982, 1986a), Panckhurst (1982), and Smith and Bourke (1990). In addition, the 1984 Western Australian survey reported by Finlay-Jones

(1986), Louden (1987) and Van Schoubroeck and Tuetteman (1986) also explored differences in levels of stress when the teachers in the sample were categorised by gender.

The majority of these studies reported no significant differences in stress levels between males and females. However, four investigations found that sex was a significant influential variable in relation to teacher stress. Laughlin (1984) and Kyriacou and Sutcliffe (1979a) discovered that female classroom teachers recorded greater stress levels than their male counterparts. Tellenback et al. (1983) found that sex was an influential variable on potential and actual stressors, but did not clarify the situation any further, while Kinnunen (1988) ascertained that women reported more feelings of emotional stress than men.

Although research has found generally no significant differences in stress levels when categorised by sex, differences in the rating of individual stressors, according to gender, have been discovered. Smith and Bourke (1990), for example, reported that the sex of a teacher was a significant direct influence on stress arising from rewards and recognition. In other studies, females have reported more stress in relation to job security (Otto, 1982); found student-related issues more stressful (Kyriacou and Sutcliffe, 1978b; O'Connor and Clarke, 1990); felt the effect more of time and workload stress (O'Connor and Clarke, 1990; Smith and Bourke, 1990); been more stressed by resource workload (Smith and Bourke, 1990); experienced higher stress levels from being unable to relax after school hours (Otto, 1982); and ranked stressors in a different order of importance (Tuetteman, 1988, 1991). Alternatively males have perceived other factors as being more stressful than women. Such factors have included administrative work (Kyriacou and Sutcliffe, 1978b); curriculum

demands (Laughlin, 1984); poor remuneration (Manthei and Solman, 1988); and lack of teaching aids, individualised teaching and critical parents (Mykletun, 1984).

Kyriacou and Sutcliffe (1978b) examined the interactions between sex and other socio-biographical characteristics in relation to individual stressors. Among their findings, which are of relevance to the present study, are that male non-university graduates were more stressed by demands made upon their private time; lack of recognition for extra work, pupil non-acceptance of a teacher's authority and lack of time with individual students were more stressful for less experienced male and more experienced female teachers; and female teachers aged over forty-five years were less stressed by the low status of the teaching profession.

The findings of the studies which investigated differences in the perceptions of stress levels or individual stressors when categorised by sex are inconsistent. Some studies (for example, Cichon and Koff, 1980; Fimian, 1984b; Harris et al., 1985; Louden, 1987; Otto, 1986a; Tellenback et al., 1983) found no significant differences in perceptions of stress levels or individual stressors as reported by male and female teachers. However, studies by Kyriacou and Sutcliffe (1979a) and Laughlin (1984) found that sex was an influential variable on stress levels. Furthermore, other research reported significant associations between sex and individual stressors, but such findings were not consistent across the studies reviewed. As a consequence of the inconsistent findings, generic statements regarding the influence of gender on stress levels or individual stressors should be avoided.

Age

The influence of age on teacher stress has been examined in a number of countries. Such studies have investigated the association between age and general stress levels, or age and individual stressors. In North America, Russell et al. (1987) found that younger teachers reported a greater number of job-related stressors, and higher stress levels. The result of this investigation contrasts with a survey conducted in 1980 by the New York State United Teachers and cited by Sparks and Hammond (1981). This survey showed that teachers aged between thirty-one and forty years perceived themselves as experiencing the greatest stress. A third North American study (De Frank and Stroup, 1989), which examined age and individual stressors, discovered that parental problems and salary levels were more significant for younger teachers, while older teachers were more concerned by incompetent colleagues.

Kyriacou and Sutcliffe (1977a), in a study of English comprehensive teachers, found no association between age and perceived levels of stress. In another study of English comprehensive teachers Kyriacou and Sutcliffe (1978b) reported that younger teachers suffered greater stress from interaction with students, the issue of promotional opportunities and the school administration. Mykletun's (1984) study of Norwegian comprehensive teachers revealed that younger teachers were more stressed by lack of teaching aids, lack of professional support, individualised teaching and overcrowded classrooms. He also found that older teachers were less effected by work overload. Another study conducted in Europe by Tellenback et al. (1983), used a sample of Swedish comprehensive teachers and ascertained that age effected the

perception of potential and actual stressors. However, specific age groups were not discussed.

Three studies in Australia and New Zealand commented on differences in the rating of stress levels when categorised by age. Panckhurst (1982) reported that teachers over fifty years of age experienced less overall stress. By comparison, Chiu et al. (1986) found that teachers aged between thirty-five and fifty-five had higher than average stress levels, with the incidence of stress peaking between forty-five and forty-nine years of age. Manthei and Solman (1988) complicate further this issue with their findings of teachers less than twenty-six years of age having the poorest level of well-being. In addition, Louden (1987) indicated that there was no significant differences in levels of distress when the respondents were grouped by age.

Australian and New Zealand reports on the rating of individual stressors categorised by age groups have been forthcoming from Laughlin (1984) and Manthei and Solman (1988). The findings of these studies included that older teachers were more stressed by curriculum demands (Laughlin, 1984; Manthei and Solman, 1988), and time and resource difficulties (Laughlin, 1984). Alternatively, older teachers were less stressed by time pressures, salary levels and physical surroundings (Manthei and Solman, 1988). Furthermore, Laughlin (1984) found that less experienced teachers aged over forty years were more stressed by lack of professional recognition in comparison with teachers of the same age who were more experienced. In relation to younger teachers, Laughlin (1984) discovered that those aged less than twenty-six years reported significantly more stress from curriculum demands if they held a university degree.

Studies which discussed differences in the perceptions of stress or individual stressors when categorised by age have revealed inconsistent and opposite trends. Such inconsistency was apparent both within the same (for example, Panckhurst, 1982; Manthei and Solman, 1988) and different (for example, Kyriacou and Sutcliffe, 1978b; Chiu et al., 1986) geographical areas. Consequently, any summative statement on the influence of age on perceptions of stress levels or individual stressors should stipulate that no consistent trends have been found in studies conducted in a variety of countries.

Length of Teaching Experience

The influence of length of teaching experience on perceptions of stress levels is inconsistent, according to a number of studies. In Britain, Kyriacou and Sutcliffe (1977a) reported no association between these two variables, but Capel (1987) found less experienced teachers had higher levels of stress and burnout. Another British study by Trendall (1989) ascertained that less experienced teachers reported more stresses than their experienced colleagues. Australian research is equally inconsistent. Otto (1985b) reported that stress was unrelated to teaching experience, while Chiu et al. (1986) discovered that stress peaks were related to length of teacher experience.

The impact of length of teaching experience and ratings of individual stressors has been found to vary. North American research has found that inexperienced teachers are more troubled by parental related problems (De Frank and Stroup, 1988), while Whiteman, Young and Fisher (1984) discovered no differences in the perception of student behaviour between beginning and experienced teachers. However,

research in England (Kyriacou and Sutcliffe, 1978b), Australia (Laughlin, 1984) and New Zealand (Manthei and Solman, 1988) reported that less experienced teachers found student-related issues, particularly misbehaviour, more stressful. Kyriacou and Sutcliffe (1978b) also ascertained that inexperienced teachers rated lack of promotional opportunities and the school administration more stressful than their experienced colleagues. The impact of change, particularly in regard to the curriculum, has been found to be more stressful for experienced teachers in New Zealand (Manthei and Solman, 1988) and Norway (Mykletun, 1984). Other results of Mykletun's (1984) research included that experienced teachers suffer less stress from work overload, overcrowding, individualised teaching and lack of teaching aids. Laughlin's (1984) Australian study reported that teachers in their middle career years were significantly more stressed from professional recognition needs.

Research which has reported on differences in the perceptions of stress levels based on length of teaching experience has provided contrasting findings. A similar picture emerged on research which has examined differences in the rating of individual stressors when categorised by the same variable. While some investigations have found significant differences, such findings are by no means universal. Indeed, in regard to the perception of student behaviour, research reports have been contradictory.

Year Level Taught

Researchers who have investigated differences in the perceptions of stress levels or individual stressors according to year level taught have placed the latter variable into two broad categories, namely primary/elementary and secondary. The second category has sometimes been dichotomised further into junior and senior high school teachers.

Three North American studies have examined ratings of stress levels based on year level taught. These studies presented conflicting results. Gorrell, Bregman, McAllister and Lipscomb (1985) found that elementary teachers reported significantly greater overall levels of stress. Dworkin et al. (1988) discovered that both elementary and junior high school teachers had higher stress levels than teachers in senior high schools. However, Bacharach, Bauer and Conley (1986) and De Frank and Stroup (1989) reported that, within their samples, there did not appear to be a large difference in stress levels experienced by elementary and secondary teachers. Similar results have also been obtained in Britain (Kyriacou and Sutcliffe, 1978b) and Australia (Laughlin, 1984).

Research which has investigated differences in the ratings of individual stressors when analysed by year-level taught has unearthed a variety of findings. In North America, Bacharach et al. (1986) found that, for elementary teachers, positive supervisory behaviour and student learning were strong negative predictors of general stress; role ambiguity was a strong positive predictor of general stress; and contact with supervisors a less strong predictor of general stress. This study also ascertained that, for secondary teachers, role ambiguity was a positive predictor of general stress; and rationality of the promotional system and student behaviour

were negative predictors of general stress. Gorrell et al. (1985) reported that elementary teachers, in comparison with secondary teachers, perceive potentially stressful events as being more stressful; show significantly higher levels of both structural and conflict stress; and find the steady structural stress of teaching in the classroom to be more burdensome. A study conducted by the National Education Association (1978), which concentrated on student violence, discovered that secondary teachers were subjected both to greater incidences of violence and malicious damage to personal property than elementary teachers.

Another North American study of interest was conducted by De Frank and Stroup (1988). In using the Teacher Occupational Stress Factor Questionnaire (Clark, 1980), with a sample of elementary teachers, these researchers isolated four factors - intraschool conflict, student issues, salary concerns and incompetent teachers. Previous studies which had used this instrument (Clark, 1980; Moracco et al. 1982) included various types of teachers in their samples and isolated five factors. The results obtained by De Frank and Stroup (1988), compared to those obtained in these previous studies, have already been discussed in the sub-section on previously developed stress measurement instruments. Their study has been re-reviewed because of the findings in relation to the different stress factors perceived by the sample of elementary teachers. A further discovery by De Frank and Stroup (1988) was that day-to-day concerns were significantly more troublesome for elementary teachers.

Mykletun's (1984) study of Norwegian comprehensive teachers revealed a number of differences in stressors as perceived by teachers of varying year levels. Teachers in lower grades reported higher levels of stress from work overload, poor room conditions and overcrowding. Higher

grade teachers found organisational climate, staff relations, individualised teaching and career issues to be more stressful.

Research in Australia and New Zealand (Van Schoubroeck and Tuetteman, 1986; University of Melbourne, 1989) has indicated that primary and secondary teachers are affected by different stressors. Furthermore, primary teachers have reported significantly more stress from time and resource difficulties (Laughlin, 1984) and curriculum demands (Laughlin, 1984; Manthei and Solman, 1988). Laughlin (1984) also reported that teachers in promotional positions reported significantly more stress, with the greatest difference in primary teachers. In comparison, teachers of higher year levels have indicated more stress from relations to the employer system, community attitudes (O'Connor and Clarke, 1990) and pupil recalcitrance (Laughlin, 1984).

The influence of year level taught on perceptions of stress levels is inconsistent according to the research reviewed. In relation to the perception of individual stressors when categorised by year level taught, studies have shown that elementary/primary and high school teachers perceive different stressors to be of importance. However, there is no consistent trend with this differing perception of stressors.

Level of Qualification

Differences in perceptions of stress levels according to level of qualification has received relatively limited attention in the literature. British studies have reported contradictory results. Kyriacou and Sutcliffe (1977a, 1978b, 1979a) found no association between level of qualification and general stress levels. However, Trendall (1989) reported that

teachers with basic qualifications were statistically significantly ($p<0.01$) greater in number in the highly stressed category. One Australian study, Laughlin (1984) discerned results similar to those of Kyriacou and Sutcliffe (1977a, 1978b, 1979a), while Louden (1987) reported no differences in levels of stress when examined by teachers' qualifications.

Most of the research which has investigated the influence of levels of teachers' qualifications on perceptions of individual stressors appears to have been confined to Australia, New Zealand and Britain. One North American study (De Frank and Stroup, 1989) reported that more highly educated teachers experienced greater concern in relation to incompetent colleagues. Australian research discovered that teachers with a degree, rather than a teacher diploma or certificate, were significantly more stressed by student factors (O'Connor and Clarke, 1990) and teachers aged less than twenty-six years reported significantly less stress from curriculum demands if they held a university degree (Laughlin, 1984). Manthei and Solman's (1988) study, which involved a sample of New Zealand teachers, found that university qualified teachers were less stressed by salary levels (they received higher salaries than College diploma teachers), but were more stressed by lack of professional recognition and time demands. Research with English comprehensive teachers, conducted by Kyriacou and Sutcliffe (1978b), discovered that university graduates were less stressed by poor working conditions and a poor school ethos.

The influence of teachers' qualifications on general stress levels is varied. Studies have reported contrasting results, which means any statement on this issue should acknowledge the differing outcomes of research. A similar conclusion is forthcoming from investigations into the influence of

qualifications on the rating of individual stressors. Although some studies have shown significant differences, such associations are by no means generic.

Type and Category of Employment

Few studies have examined differences in the perceptions of stress levels or individual stressors when categorised by type of employment. In Australia, Chiu et al. (1986) discovered that full-time teachers had higher stress levels than teachers who were employed on a casual or half-time basis, or were on leave. Mykletun's (1984) study of Norwegian comprehensive teachers reported that part-time teachers experienced more stress from change and less stress from work overload. A study conducted in Australia by Smith and Bourke (1990) found that full-time teachers were more stressed by resource overload.

In relation to category of employment, Panckhurst's (1982) study of New Zealand teachers discovered that those not in permanent positions experienced more stress. O'Connor and Clarke (1990) reported that, in their study of Australian teachers, permanent teachers were more stressed by time and workload pressures.

The dearth of research which has examined the influence of type of employment or category of employment and teacher stress levels or individual stressors does not allow for a substantial statement to be made on these issues. Clearly, more research in this particular area is required, an avenue to which the present study will contribute.

Summary.

This section of the literature review discussed differences in the perceptions of stress levels and individual stressors when analysed by socio-biographical characteristics of teachers. The framework for the discussion was derived from the socio-biographical variables considered in the present study. These variables included sex, age, length of teaching experience, year level taught, level of qualification, type of employment and category of employment.

Research which investigated the influence of sex on the rating of stress levels reported inconsistent findings. Some studies found significant differences in perceptions of stress levels, while other studies discovered no such occurrence. In regard to differences in the ratings of individual stressors based on gender, although some studies reported significant differences such findings were not general across all the studies reviewed.

Studies which examined the influence of age on ratings of stress levels and individual stressors found not only inconsistent, but also opposing trends. Such findings were not related to differing geographical areas, and were apparent in research conducted in the same country.

Some investigations into perceptions of stress levels based on length of teaching experience found significant differences. However, other studies reported conflicting results. A similar pattern emerged in regard to the rating of individual stressors. While some studies discovered that significant differences did exist, these findings were not consistent among all investigations.

The effect of year level taught on general stress levels has been found to be inconsistent. Research which has reported that elementary and junior high school teachers suffer greater stress has been contradicted by studies which ascertained that there was little difference in stress levels experienced according to year level taught. Research which examined the impact of year level taught on the rating of individual stressors found that teachers in elementary schools, by comparison with secondary teachers, identified different stressors as being of importance. However, there was no consistency in stressor identification according to year level taught.

Differences in levels of teacher qualification have been shown to be an inconsistent influence on both general stress levels and the perceived importance of individual stressors. In regard to the type and category of employment, the scarcity of research on these issues mitigates the ability to comment accurately on trends in the association between these variables and perceptions of stress levels and individual stressors.

Occupational Stress and Satisfaction

Studies which have examined the relationship between stress and job satisfaction have produced mixed results. Such results will be reviewed by an examination of the relevant research on a geographical basis.

North American research which has commented on the relationship between stress and satisfaction includes Tosi and Tosi (1970) and De Frank and Stroup (1989). The former study, which conceptualised organisational stress in terms of role conflict and role ambiguity, used a sample of sixty-eight teachers from all school levels. Analysis of the data

revealed that while role conflict was correlated negatively with job satisfaction, there was no significant relationship between job satisfaction and role ambiguity. The latter study involved a sample of two hundred and forty-five elementary teachers. From this research, job stress emerged as a strong predictor of job satisfaction, that is, high job stress was associated with low job satisfaction. The results of the research conducted by Tosi and Tosi (1970) should be interpreted with some caution. Not only did they conceptualise job stress in narrow terms, but their small sized sample does not allow for a generalisation of their findings. The study by De Frank and Stroup (1989) appears to have more credence, but the results should only be considered within the context of elementary schools.

In a review of literature on teacher stress, Kyriacou and Sutcliffe (1977a, p. 76) commented that "... whereas job dissatisfaction appears to be strongly associated with occupational stress, the association between job satisfaction and occupational stress is less clear." These comments are reflected in the results of subsequent research conducted in Britain and Europe. Among this research Kyriacou and Sutcliffe (1979a) found a significant negative relationship between self-reported teacher stress and job satisfaction among a sample of comprehensive school teachers. Smilansky's (1984) study of thirty-six Israeli elementary teachers revealed a relatively high level of satisfaction and a medium level of stress. In an interview study of seventy-three Norwegian comprehensive teachers Mykletun (1984) reported both stress and satisfaction at work. Reviewed individually, the small sample size of each of the latter two studies could be regarded as a mitigating factor on the importance of their findings. However, reviewed together, the results of these studies appear to have more credence.

Australian and New Zealand research has produced some consistent findings. Otto (1982) reported that, from a sample of one hundred and fifteen secondary teachers, job satisfaction and job stress were significantly inversely related. This finding was reinforced when, in commenting on research she had conducted in the early 1980's, Otto (1986a) stated that stress was greatest among the most dissatisfied and lowest among teachers who found their work most rewarding. Galloway, Panckhurst, Boswell, Boswell and Green (1984b) and Laughlin (1984) also reported that their studies revealed a significant negative correlation between teacher stress and job satisfaction. In a more recent investigation, Smith and Bourke (1990) found that teacher satisfaction was shown to mitigate work related stress, with satisfaction being influenced by particular conditions, and certain aspects of satisfaction influencing specific aspects of stress.

Summary

The general pattern which has emerged from research into the association between job stress and job satisfaction is that the more highly stressed teachers tend to be less satisfied with their occupation. However, such a situation is not applicable to all teachers as indicated by the investigations of Mykletun (1984) and Smilansky (1984). They found the coexistence of stress and satisfaction. Indeed, Kyriacou (1987), in a review of international research on teacher stress, stated that some teachers have reported both high levels of stress and satisfaction. Thus, researchers should expect that while the general pattern of high stress and low satisfaction may emerge, some teachers will report high levels of both variables.

Summary

The purpose of this chapter was to review the literature which provided the research base for the present study. Due to the extensive amount of literature on stress in teaching, a framework was developed for the literature review. This framework was based on the work of Kyriacou (1987), and modified in accordance with the aims of the present research. As a consequence of the modification, seven sections formed the framework for the review of the literature. Each section also included a summary of the preceding discussion.

The first section of the literature review examined the concepts of stress and burnout. Various definitions of stress were discussed before the provision of a summarising statement. A similar approach was used to analyse the various definitions of burnout. Overall, the literature which discussed definitions of stress and burnout suggested that, although the two phenomena are manifested in similar characteristics, each should be treated as a separate, though related, entity.

Section two of the literature review was concerned with definitions of teacher stress and teacher burnout. A variety of definitions of the former phenomenon were discussed. From this discussion the suggestion was made that teacher stress is a similar event to that of stress in general, but resulting from conditions peculiar to teaching. Teacher burnout was reviewed in the same fashion. The resulting conclusion echoed that outlined for teacher stress, but applied to teacher burnout.

Reasons for concern about teacher stress and teacher burnout comprised section three of the literature review. Essentially, the literature which

discussed such concern pertained to the qualitative and quantitative costs of these two phenomena. In addition, the literature recommended that pro-active, rather than re-active, policies should be implemented to overcome the problems caused by teacher stress and teacher burnout.

The fourth section of the literature review examined the prevalence of stress in the teaching profession. Four approaches to the measurement of stress were discerned in the literature. These approaches included the use of a single-item question, multi-item measures, the General Health Questionnaire (Goldberg, 1972) and non-specified techniques. The findings for each of these methods demonstrated that stress is widespread among members of the teaching profession throughout many countries in the world.

Sources of stress in the teaching profession were discussed in section five of the literature review. The results of the two main research methodologies used, namely quantitative and qualitative, were examined. Each of these research methodologies revealed similar findings, with minor variations in different countries, locations in the same country and types of school. Furthermore, this section also included comments about the lack of extensive research into sources of stress among Western Australian teachers.

Section six of the literature review investigated differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics. The socio-biographical characteristics discussed included sex, age, length of teaching experience, year level taught, level of qualification, type of employment and category of employment. For the first five characteristics, results were found to be

inconsistent and, in the case of age, diametrically opposite. In the case of the latter two characteristics, a dearth of research precluded the identification of any established trends.

The final section of the literature review discussed the relationship between stress and satisfaction among teachers. A general pattern, in which the more highly stressed teachers tended to have lower levels of occupational satisfaction, emerged. However, this pattern was not always consistent, with some researchers having discovered the co-existence of both stress and satisfaction.

The last two chapters have presented a thorough review of the literature used in the current research. The next stage in the present study is the development of a conceptual framework. This is undertaken in the next chapter.

CHAPTER IV

THE CONCEPTUAL FRAMEWORK

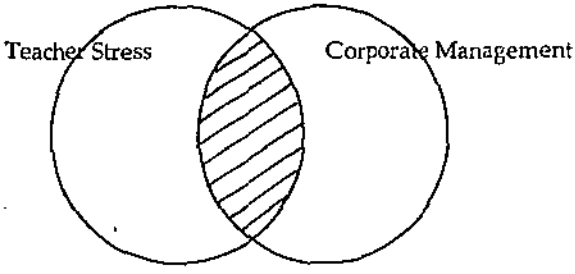
Introduction

This chapter describes the theoretical context of the present study within a conceptual framework. The purpose of a conceptual framework was summarised by Miles and Huberman (1984) when they stated that "A conceptual framework explains, either graphically or in narrative form, the main dimensions to be studied - the key factors, or variables - and the presumed relationships among them."(p. 28). These authors explained further that to accomplish this aim the researcher should lay out the general constructs, based on theory, research and objectives of the study, which include a substantial amount of particular information. Each of these constructs are to be given a descriptive or inferential name, and their interrelationships explained (Miles and Huberman, 1984, p. 28).

As a result of formulating a conceptual framework, Miles and Huberman (1984) suggested that the researcher becomes selective about which aspects of the study assume importance. Consequently, the type of information which should be collected and analysed becomes apparent.

The Theoretical Context of the Present Study

In set theory terms, the context of the present study can be represented as the intersection set portrayed in Figure 4.1. Briefly, the conceptual framework is derived from the theoretical domains relating to teacher stress and corporate management. The latter is relevant to the present



The intersection set within which the present study is based

Figure 4.1. Theoretical context of the present study

study because the management structure and practices of the Western Australian Ministry of Education is modelled on corporate management principles. From the area of teacher stress theory, the variables associated with investigations into teacher stress have been derived and adapted for the present study. The results of the current investigation will contribute to furthering knowledge about both of the above-mentioned areas.

Teacher Stress

Models developed to examine the process of teacher stress (for example, Blase, 1982; Brenner, Sorbom and Wallius, 1985; Fisher, 1984; Kyriacou and Sutcliffe, 1978a; Pettegrew and Wolf, 1982; Schutz and Long, 1988; Smith and Bourke, 1990; Tellenback et al., 1983) have been based generally on similar variables and processes. Each has conceptualised teacher stress as being psychological in nature because the stress response results from an interaction, based on perception, between the individual and the environment.

Essentially, these models suggest that aspects such as socio-biographical characteristics, non-occupational stressors, location of the school and/or type of school influence teachers' appraisal of potentially stressful events. Such potentially stress-producing events have included student-related, working conditions, time pressures, management-related, workload, staff tension, role conflict, lack of recognition of professionalism within the education system, lack of rewards in terms of money and status, and role clarity. If, as a result of the appraisal process, teachers perceive the potential stressors to be beyond their coping abilities then these become actual stressors. Failure to cope with the actual stressors causes stress,

with consequent dysfunctional reactions. These reactions have been classified as behavioural, physiological and psychological.

In addition to variables discussed previously, some researchers have used occupational satisfaction within models of teacher stress. However, the role of this variable has not been consistently placed within the teacher stress process. For example, an analysis of the models developed by Kyriacou and Sutcliffe (1978a) and Tellenback et al. (1983) suggests that satisfaction is both an effect of, and mediator on, teacher occupational stress. In a somewhat different manner Blase (1982) and De Frank and Stroup (1989) proposed that occupational stress influences job satisfaction. Alternatively, Smith and Bourke (1990) found that satisfaction mitigated teacher work-related stress. Despite these inconsistencies, previous researchers have established that occupational satisfaction does appear to have a role in the process of teacher stress.

Two groups of researchers (Brenner et al., 1985; Tellenback et al., 1983) have successfully used causal modelling techniques to analyse the process of teacher stress. Essentially, their findings, apart from demonstrating that causal modelling techniques are applicable in studies of teacher stress, confirmed that the process of teacher stress is similar to that discussed previously.

One of the groups of variables which is not included in the model of teacher stress developed in the present study is non-occupational stressors. The exclusion of this group of variables is evident in previous research which developed models of teacher stress. Such research is exemplified by the work of Brenner et al. (1985), De Frank and Stroup (1989), and Smith and Bourke (1990). Therefore, the omission of non-

occupational stressors in the present study does not represent a significant departure from accepted practice in the development of models of teacher stress.

The results of previous research which explored the development of teacher stress models has been considered in the present study. Such consideration is evident in a number of respects. First, as will be discussed in Chapter V, self-report methodologies have been used to collect the relevant data. Second, the model developed in the present study is psychological in nature. Third, the variables about which information will be collected, namely socio-biographical characteristics of teachers, causes of stress, perception of the level of occupational stress and perception of the level of occupational satisfaction, were selected from the research discussed previously.

Within this context, the present study will investigate the prevalence of stress and satisfaction among primary school teachers, together with the causes of occupational stress. In addition, the influence of socio-biographical characteristics on the perception of stress and stressors is examined. Furthermore, this study also develops a causal model of teacher stress, based on *a priori* assumptions and temporal sequence of events, using the method of path analysis.

Dysfunctional reactions to stress have an impact on individuals, with consequent effects on their work and nonwork environment (Greenhaus and Parasuraman, 1987). The conceptual framework of the present study considers the impact of teacher stress on the work environment. In particular, the desirability of recognising the impact of teacher stress within the overall management on an education system. In Western

Australia, the management of the government education system is guided by the principles of corporate management.

Corporate Management

Within this section the nature of the administrative model used by the Ministry of Education, namely, corporate management, will be discussed. In addition to examining the specific model utilised by the Ministry, the process by which corporate management practices were implemented will be outlined. Furthermore, the relationship of the present study to corporate management practice, as applied by the Ministry of Education, will be explained.

In relation to the implementation of corporate management practices in the Western Australian government system, Robertson (1990) has provided a concise account. She traced the origins of the change process to the White Paper released by Burke (1986). This White Paper provided a blueprint for the introduction of corporate management practices throughout state government instrumentalities. Almost simultaneously, the report of the Functions Review Committee on the structure and operation of the Education Department of Western Australia was released. The result of this report, as outlined by Robertson (1990), was the restructuring of the Education Department into a Ministry of Education. The organisational structure of the new Ministry reflected corporate management characteristics.

The specific corporate management model to be implemented by the Western Australian Government has been outlined by Whittaker (1989), who stated that the ultimate purpose of a model public service agency

was "the achievement of government objectives in a manner which is economical, financial, responsive and accountable" (p.24). These objectives would be achieved by the development of a number of plans - corporate, financial, human resources and informational technology.

Of particular relevance to the present study is the human resources plan, about which Whittaker (1989) stated

> the agency's use of its human resources seeks to optimise the achievement of government's policies while promoting and maintaining a satisfied, healthy and vibrant workforce. It achieves this by maintaining a training culture and by providing training opportunities which enhance personal productivity, career development and equity. This is nurtured by a management style which provides vision, acts with fairness, and instils confidence and a sense of achievement in the workforce. (p. 31)

The basic aims of the human resources plan in respect to the welfare of the workforce appears to have been reiterated in the document Managing Health and Safety in the Public Sector (Government of Western Australia, 1990). This document made reference to the need to maintain safe and healthy workplaces to ensure an effective workforce.

Within a very short time period after the formation of the new Ministry of Education, the process for introduction of corporate managerial practices in every level of the government school system were announced. This process was outlined in the document entitled "Better Schools in Western Australia: a Programme for Improvement" (Ministry of Education, 1987). The document emphasised the need for schools to be responsive and adaptable to the needs of the community and government priorities; to be flexible in the use of resources to meet these goals; and to be

accountable to the government and the community for the standard of service and funding.

To achieve the emphases outlined by the Ministry of Education (1987) schools were to become self-determining. Gaffney (1990) suggested that the achievement of such self-determination will occur through the interrelationship of three devices - the school-based decision-making group, the school development plan and the school grant. Essentially, the self-determination process commences with the formation of a school-based decision-making group, comprising members of the community and teachers. This group prepares the school development plan which details the implementation of Ministry policies and community priorities. The implementation costs of the school development plan are funded by the school grant, as approved by the Ministry of Education.

This implementation process has implications on teachers' time and energy. The Ministry of Education (1989) has stated that teachers are expected to both participate in and support priority projects in the school. Furthermore, there is also teacher representation on the school-based decision-making group. These responsibilities, the implementation of new curricula (and participation in associated professional development activities), and the normal duties associated with teaching combine to place enormous pressure on teachers' time, in addition to increasing their workloads. These two aspects have been identified consistently in the literature as important sources of teacher stress.

Blackmore (1990) has suggested that the implementation of school-based decision-making and management, within corporate management guidelines, will affect teachers in other ways. Essentially, these include a

reduction of teacher professionality, autonomy and increasing powerlessness. The latter issue was discussed also by Bessant (1989). Such issues have been identified in the literature as sources of stress in teaching.

Another impact of the implementation of corporate management in the Western Australian Government school system could be the actual change process. Research on teacher stress (for example, Dunham, 1976; University of Melbourne, 1989) has revealed that organisational change processes can contribute to occupational stress, with consequent implications on the effective achievement of the goals of the change process.

The recent developments in administrative ideas and practices, as applied to the Western Australian Government Public Sector, emphasise the need for effectiveness and efficiency among public sector employees, including teachers. The research literature on teacher stress suggested that workers who suffered from stress (and/or burnout) can be neither effective nor efficient. In addition, workers who are suffering from stress can be dissatisfied with their job and have low morale. Consequently, the best interests of the Government of Western Australia would appear to identify both the extent and sources of stress among public sector employees. Such an investigation should occur to ensure that the stated goals of the model public sector agency's human resources plan can be achieved. In the case of the present study, the investigation will relate to teachers in government metropolitan primary schools.

Specific comments on the need for effective personnel administration policies in regard to teachers have been made by the former Chief

Executive Officer of the Ministry of Education (Nadebaum 1990a; 1990b). She has acknowledged that, in relation to teachers, the government has been derelict in the approach taken to the management of people and cited the 1989 industrial dispute as evidence of this dereliction. Furthermore, Nadebaum (1990a; 1990b) has commented specifically on the need to maintain an efficient and effective teaching workforce. In addition, she appears to have demonstrated an awareness of problems within the teaching workforce by stating that the need to retain and attract quality teachers is being hindered by the increasing demands which teachers are encountering. Should high levels of occupational stress be apparent among teachers, the goal of attracting and maintaining quality teachers, hence maintaining an efficient and effective workforce, becomes even more difficult. Recognition of the prevalence and sources of occupational stress among teachers should allow appropriate administrative policies to be implemented. Such policies should assist in the achievement of the stated goal of an efficient and effective workforce.

Summary

This chapter presented the conceptual framework of the present study. Accordingly, the purpose of a conceptual framework was discussed prior to an examination of the theoretical context of the present study. The latter was determined as including the domains of teacher stress and corporate management.

The next section of the chapter included a review of models which have been developed to explain the process of teacher stress. The subsequent discussion explained the role of these models in the development of the present study. This included the psychological nature of the model

developed in the current research and the variables which are examined in determining such a model. Further discussion also revealed the applicability of causal modelling techniques to investigations into teacher stress. The final part of this section showed how the variables to be studied were to used to complete the aims of this research.

The discussion on teacher stress was followed by an examination of corporate management as applied to the Western Australian Government education system. Within this examination, which specified the particular corporate management model adopted by the Ministry of Education, the contribution of the present study to the implementation of corporate management practices was discussed.

Having explored the development of a conceptual framework for the present study, the next chapter discusses the methodology utilised to gather and analyse the obtained information. Such information was both qualitative and quantitative in nature.

CHAPTER V

METHODOLOGY

Introduction

The methodology of the present study will be discussed in nine sections. Section one outlines the stages undertaken in the preparatory phase of this investigation. In the second section, the sampling procedure used for the selection of schools to participate in this study is described. A discussion of the development of the research instrument used to collect the quantitative data comprises the third section of this chapter. The fourth section discusses how ethical considerations were incorporated into the present study. In the fifth section the distribution and collection procedures used for the survey instrument are described. The processes involved in the collation of data are outlined in section six of the chapter, followed by an examination of the process involved in the acquisition of qualitative information. The eighth section comprises a discussion of the main statistical procedure used to analyse the quantitative data, namely, structural equation or causal modelling, comprises the final section of this chapter. The dominant research paradigm characterised by the present study is explored in the final section of the chapter.

The Preparatory Phase of the Study

Before commencing the present study permission was obtained from the Ministry of Education of Western Australia to conduct research in government schools. In addition to the letter written to the Director of the Policy and Resources Division of the Ministry of Education in which the

nature of the present study was outlined, letters were also written to the State School Teachers' Union of Western Australia and the Western Australian Primary Principals' Association seeking support for the project. Positive responses were received from the Ministry of Education and the State School Teachers' Union, but no reply was forthcoming from the Primary Principals' Association. Appendix Two contains details of the correspondence between the present researcher and the organisations outlined previously.

Ironically, the support received from the Ministry of Education and the State School Teachers' Union sometimes proved to be a barrier to teacher participation in the study. Some teachers refused to complete the questionnaire when they were informed of Ministry and Union support for the present research. Following acknowledgment of approval from the Ministry of Education, letters were mailed to principals of schools selected to participate in the research. The process for this stage is described in the section on the distribution and collection of the survey instrument.

The Sampling Procedure

Previous research into teacher stress (for example, Clark, 1980; Hembling and Gilliland, 1981; Moracco et al. 1982, Foxworth, Karnes and Leonard 1984; Bacharach et al. 1986, Van Schoubroeck and Tuetteman, 1986; and McCormick and Solman, 1990a) has revealed the necessity of developing self-report instruments particular to specific situations. Factors such as geographical location of the school, type of school (primary or secondary; government or private), and type of teacher (regular or special) have been shown to influence both the prevalence and sources of teacher stress.

In the case of the present study, the specific situation refers to teachers employed in Government primary schools in the metropolitan area of Perth. Furthermore, the schools in the study are characterised by non-teaching principals, and are non-priority schools (priority schools are generally located in low socio-economic areas and receive additional Federal Government funding). To determine which schools could be categorised by the above criteria, information was obtained from the Ministry of Education and the annual directory which outlines staff allocations and school classifications (Ministry of Education 1990b). An additional constraining influence on sample selection was the size of the geographical area of metropolitan Perth. With schools spread over approximately two thousand square kilometres, distance became an important consideration. Consequently, the potential sample size was reduced further by accessibility. Such a sampling procedure is described by Deschamp and Tognolini (1983) as stratified random sampling.

Development of the Research Instrument

The decision to use a self-report instrument was based on the findings of previous teacher stress research. Leach (1984), Finlay-Jones (1986) and Fimian (1987b) indicated that measures of teacher stress obtained from a self-report basis are very similar to recognisable observations revealed by objective means such as supervisors' ratings and teacher stress experts' opinions. In addition, Kyriacou and Sutcliffe (1978a, 1978b) suggested that stress is a subjective experience and, therefore, should be measured by a self-report instrument. Bacharach et al. (1986) agreed that the stress stimulus is the individual's perception of the organisational structure and work process, rather than the actual structure and work process.

The instrument was developed from three main sources, namely, a review of previous research, interviews with teachers, and consideration of contextual influences on Government schools since 1984.

As a result of the information obtained from these sources, a research instrument was developed for implementation during term two (April - June) 1991. Prior to implementation, a pilot copy of this instrument was read by eighteen teachers not participating in the present study. A few adjustments were made as a result of comments provided by these teachers. Such alterations were concerned with clarification of instructions and the rewording of one item in section four.

The final instrument comprised eight sections together with an introductory statement about the questionnaire. A copy of the final instrument can be found in Appendix Three. Table 5.1 summarises the relationship between the specific research objectives and the sections of the questionnaire.

Section one of the questionnaire contained seven questions which elicited information about the respondent's sex, age, length of teacher experience, year level being taught at the time of participation in the research, level of qualification, type of employment and category of employment. The categories by which the socio-biographical characteristics are summarised appear in Table 5.2.

Section two measured the perceived level of job satisfaction by posing the question,

"In general, how satisfied are you with your job as a teacher?"

Respondents rated their answer on a five-point Likert-type of scale - very satisfied; fairly satisfied; neither satisfied nor dissatisfied; fairly dissatisfied; and very dissatisfied. Scoring on this item ranged from one for "very satisfied" to five for "very dissatisfied". A similar one-item measure of job satisfaction has been used in previous Australian studies on teacher stress (Laughlin, 1984; McCormick and Solman, 1990b).

Table 5.1
The Relationship Between the Specific Research Objectives and the Sections of the Questionnaire

Research Objective	Questionnaire Section
1. The development of a self-report instrument to identify the prevalence and sources of occupational stress.	1-6
2. The determination of the levels and sources of occupational stress.	3, 4, 6
3. The investigation of any differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics.	1, 3, 4, 6
4. The investigation of the relationship between occupational stress and satisfaction.	2, 3, 5, 6
5. The development of a causal model of teacher stress.	1, 2, 3, 4

Section three measured the respondent's perceived level of occupational stress by asking the question,

"In general, how stressful do you find being a teacher?"

Answers were rated on a five-point Likert-type of scale - not at all stressful; mildly stressful; moderately stressful; very stressful; and extremely stressful. Scoring for this item ranged from one for "not at all stressful" to five for "extremely stressful". The use of a one-item measure

has been demonstrated to be effective by previous researchers. Kyriacou and Sutcliffe (1978b) reported significant and positive correlations between the responses to the single-item question and ratings of stress sources and stress symptoms. In addition, both Galloway et al. (1985b) and Otto (1985b) also discussed finding strong correlations between responses to single-item questions and stress sources. Furthermore, Otto (1985b) revealed that in previous research which she had conducted, responses to the single-item question were related strongly to psychophysiological symptom measures and reports on medical consultations for stress-related problems.

Table 5.2
Socio-Biographical Categories of the Sample

Characteristic	Category
Sex	Male Female
Age	20-25, 26-30, 31-35, 36-40 41-45, 46-50, 51-55, over 55
Length of Teaching Experience	0-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, over 35
Year Level Taught	K-3 4-7
Level of Qualification	Diploma of Teaching, B.A. (Teaching), B. Ed., Bachelor Degree and Dip. Ed., Post-Graduate Qualification
Type of Employment	Full-time Part-time
Category of Employment	Permanent Temporary

The perceived sources of occupational stress were measured in section four. This section contained sixty-five items which described potentially stressful situations for teachers. The derivation of items for this section from previous research was a relatively lengthy process - particularly given the number of studies conducted on the sources of teacher stress. To ensure the maintenance of a manageable process, the present researcher confined the review of previous research to studies conducted since the beginning of the previous decade or studies which have been recognised as landmark research, for example, the work of Kyriacou and Sutcliffe. In addition, the present researcher ensured that a geographical cross-section of studies were reviewed by the inclusion of work undertaken in Europe, North America and Australasia (and, in particular, Western Australia). European studies were represented by Kyriacou and Sutcliffe (1978a), Mykletun (1984) and Pratt (1978). Studies from North America which were reviewed extensively included Bacharach et al. (1986), Blase (1986), Clark (1980), Dworkin et al. (1988), Fimian (1984b), Foxworth et al. (1984), Gorrell et al. (1985) and Moracco et al. (1982). The Australasian research reviewed included Dewe (1986), Fordham and Hunt (1984), Galloway et al. (1984b), Laughlin (1984), McCormick and Solman (1990b), Otto (1982), and Van Schoubroeck and Tuetteman (1986). The latter study, being the only major research conducted into teacher stress in Western Australia, prior to the present study, was of particular importance.

Having identified suitable previous research, the second step was to classify the items used in the previously mentioned studies into a number of content categories. The purpose of this classification was to ensure that in compiling the list of potential items, each item used in prior

research could be accurately recorded and repetitions avoided. Provisionally the categories were labelled:

(a) class characteristics;
(b) curriculum;
(c) four-term year;
(d) working conditions;
(e) parent and community related;
(f) pastoral care/student welfare;
(g) powerlessness;
(h) role ambiguity;
(i) school- and system-level administration;
(j) stress management;
(k) student-related;
(l) teacher relationships; and
(m) time pressures.

The labelling of the categories was based loosely on the results of statistical and qualitative analysis conducted by previous researchers. Three hundred and eighty-nine potential items were identified in this manner.

The third stage in the compilation of section four of the research instrument was to reduce the large list of potential items to an amount suitable for use in the questionnaire. In undertaking this reduction the present researcher was cognisant of the recommendations made by Capel (1989). She stressed the importance of determining as many different stressors as possible for the purposes of alleviation and prevention of stressors. However, Capel's (1989) recommendation was

mitigated by the necessity of developing an instrument which participants would not find too time consuming to complete.

Four steps were involved in the task of producing a list of potential stressors. First, items which had been identified in the list of potential items and by teachers in interviews were noted. All items which had been discussed by teachers in the interview situation also appeared in the list of potential items or in the next two steps of this compilation process. Second, items identified frequently by primary school teachers in the Van Schoubroeck and Tuetteman (1986) study were recorded. Third, recent contextual influences were listed. The fourth step involved wording appropriately each item for the Western Australian situation.

Respondents were asked to rate the degree of stress which they perceived each item caused them. A five-point Likert-type of scale was used ranging from no stress, mild stress, moderate stress, much stress, to extreme stress. Scoring for each item ranged from one for "no stress" through to five for "extreme stress". Likert scales have been used successfully in research in England (Kyriacou and Sutcliffe, 1977a, 1978a), North America (Clark, 1980; Foxworth and Karnes, 1983; Dworkin et al., 1988) and Australasia (Laughlin, 1984; Manthei and Solman, 1988; McCormick and Solman, 1990b).

Section five contained six items which measured aspects of job satisfaction. The items were not specific to the teaching profession, but had been used previously in a study of teachers' duties and responsibilities (Ministry of Education, 1990c). These items provided a measure against which the data obtained from the one-item question on job satisfaction could be compared. Participants were asked to respond

to each item using a seven-point Likert scale, ranging from "strongly agree" to "strongly disagree". The items were scored such that the most positive response rated one and the most negative response rated seven.

Section six comprised the Felt Effects Scale. This is a ten-item scale developed by Baldock (1984) for use in a study on stress among staff in a tertiary education institution. The scale was also used successfully by Jongeling (1990) in a study on stress among the nursing profession. Participants were asked to rate their response to each of the items as "rarely", "sometimes" and "often". The scoring of the responses was zero for "rarely", one for "sometimes" and two for "often". A total score of between six and twelve indicates serious levels of stress, while a score of over twelve reveals very serious stress levels. The data obtained from the Felt Effects Scale was used as a comparison measure against the one-item question on occupational stress and as a global stress measure.

The seventh section of the questionnaire was a ten-item semantic differential. Respondents were asked to rate the concept "Teaching and You" on a seven-point scale. A low score on this scale represented a favourable attitude towards teaching while a high score indicated an unfavourable attitude. The bi-polar adjectives were derived from the evaluative factor, as described by Osgood, Suci and Tannenbaum (1957) in their discussion on the development of the Semantic Differential. Support for the use of bi-polar adjectives from the evaluative factor can be found in the semantic atlas of concepts compiled by Snider and Osgood (1969) in which, of the three factors described by Osgood et al. (1957), the evaluative factor was found to be the strongest for the concept of "teacher". In addition, Kerlinger (1976, p. 570) postulated that

researchers investigating attitudes and values only need to use the evaluative factor.

Section eight of the research instrument, which was not attached to the other seven sections to maintain anonymity of written responses, was used to indicate the willingness of teachers to be interviewed. Those who indicated such a willingness completed this section.

Ethical Considerations

Prior to the distribution of the research instrument, a copy of the questionnaire was submitted for approval to the Ethics Committee of Edith Cowan University. Such a submission is mandatory under University regulations relating to research using human subjects.

The main ethical concerns of the present study were the maintenance of anonymity of respondents and the possible creation of undue pressure for the individuals who participated in the research. Anonymity was maintained by the provision of two envelopes with each questionnaire. One envelope was used to enclose the written responses to the survey, while the second envelope was for the purpose of enclosing a positive response to section eight (the willingness to be interviewed). The positive responses in relation to a willingness to be interviewed were then placed in another envelope provided to each school for the purpose of collecting this particular information. Thus, not only were the written responses separated from each positive response to section eight, but the written responses were sealed in envelopes to maintain confidentiality of information. In respect to the second ethical concern about the creation of undue pressure for the teachers taking part in the research, the

principals of the schools participating in the study were asked to allocate part of a staff meeting or professional development day for the completion of the survey instrument.

Following receipt of approval from the Ethics Committee (refer to Appendix Two) the questionnaires were distributed.

Distribution and Collection Procedures

The initial step in the distribution procedure was to write letters to the principals of schools selected to participate in the study (refer to Appendix Two). The letters requested principals to approach their staff to seek willingness to become involved in the research and provided a sample of the questionnaire to ensure that potential participants knew the requirements of such involvement.

Between one and two weeks after the letters had been mailed, telephone calls were made to the principals of the schools to ascertain the response of their members of staff. In the case of positive responses, the number of questionnaires required was noted and distribution dates were arranged. By ascertaining, relatively accurately, the number of questionnaires required, cost savings occurred by the avoidance of unnecessary duplication.

Distribution and collection of the questionnaires were undertaken personally. While this proved to be a time-consuming exercise, a number of advantages resulted from making such an effort. First, personal contact was made with the principals of the various schools. This helped to establish the credibility of the present researcher, and, in some cases,

resulted in discussions from which valuable qualitative information was obtained (refer to Appendix Five). Second, clarification of the instructions which accompanied the questionnaire (refer to Appendix Two) could be accomplished. Third, the principals were able to be assured personally that they would receive results of the survey - both for their own school and the total sample. Some principals indicated that the results of the study would be used as a basis for future policy decisions within their school. Fourth, the fact that the present researcher was willing to undertake personally the distribution and collection of the questionnaires demonstrated a desire to cause minimum inconvenience to those who participated in the research. Most of the principals commented favourably on this aspect of the research process, particularly in comparison to other surveys in which their school had participated.

Collation of Data

The responses to the questionnaire were transferred by the present researcher to a computer disk. Accuracy of the transcribed information was ensured by cross-checking through the data with four second parties. The computer program used to assemble the basic statistics of the collected data was also used to search for errors.

The Acquisition of Qualitative Information

As previously discussed, section eight of the questionnaire was used to determine the teachers who were willing to be interviewed. The entire process of the collection of qualitative information was influenced by the suggestions of Guba (1979), who identified three types of problems which the researcher could encounter in the acquisition of information using a

naturalistic method of inquiry. These problems he labelled as boundary problems, focussing problems and problems of authenticity. Guba's (1979) suggested solutions to the three types of problems formed the framework for the acquisition of qualitative information.

The selection process involved classifying each potential interviewee by sex and then randomly selecting the desired number from each category. The only constraining criteria on the selection process was to ensure a similar sex ratio as was evident from the total number of collected, usable questionnaires. Such a practice was undertaken to control any gender-related bias emerging in the qualitative data.

The second step in the acquisition of qualitative information was to contact the potential interviewees by telephone. This enabled a confirmation of the willingness to be interviewed, as well as the arrangement of a time and location suitable for the interviewee. All interviews occurred either after school or during the evening and were located at either the home or the school of the interviewee. Interviews were conducted during terms three and four, 1991.

Each interview followed a set five-question format:

(1) socio-biographical information and responses to the questions in sections two and three were obtained;
(2) the interviewees were asked to discuss their perception of the attitude of the Ministry of Education and/or Government of Western Australia towards teachers;
(3) a detailed exploration of the situations listed in section four of the questionnaire which the interviewees believed caused them much or extreme stress;

(4) the interviewees were asked to discuss their opinion on whether they thought that the occurrence of many normally non-stressful events in a relatively short period of time could cause much or extreme stress; and

(5) a question was asked on the interviewee's perception of the questionnaire, particularly the identification of criticisms and strengths of the instrument.

The responses to each of these five questions, as well as the length of time occupied by the interview, were written down by the present researcher. Such a process allowed for clarification of opinions and a summary of the salient aspects of the discussion to be noted. A copy of the transcript of each interview was mailed to the interviewee to confirm the accuracy of the recorded information and to allow for any changes which a subject may request (refer to Appendix Two). No interviewee indicated a desire to alter the written report.

Structural Equation (Causal) Modelling

Introduction

The discussion on structural equation or causal modelling will comprise two sections. First, the development and general principles of structural equation modelling will be explored. Second, the specific structural equation technique used in the present study, namely Lisrel VII, will be explained.

The Development and General Principles of Structural Equation Modelling

The discussion on the development and general principles of structural equation modelling will examine a number of aspects of this particular process. The first section will outline the purpose of structural equation modelling. In the second section a review of the evolution of structural and measurement methodologies used in the social sciences will be undertaken. The third section will detail the problems inherent in such methodologies and the consequent need for the development of a new technique. In the fourth section the development of such a technique - structural equation modelling - will be explored. The advantages of structural equation modelling will be outlined in the fifth section. The sixth section will discuss apparent limitations to structural equation modelling and make qualifying comments on these limitations. A review of the logic and the assumptions of structural equation modelling comprise the next section of the general principles of this methodology. The final two sections consider presentation and interpretation of data, and the methodology involved in confirmatory structural equation modelling.

Martin (1987) suggested that structural equation modelling is an extension of familiar techniques such as multiple regression and factor analysis. In commenting on structural equation modelling, Biddle and Marlin (1987, p. 1) described this approach as "a technique that is suggested for improving our ability to make causal inferences from field-study data." Stated in slightly different terms, Martin (1987, p. 33) commented that "the primary purpose of structural equation modelling is the testing of causal theories using non-experimental data." Martin (1987) also referred to the work of Blalock (1985) who demonstrated that structural equation modelling can also be used for experimental data. In a

further comment on the purpose of structural equation modelling, Carmines and McIver (1981) have stated that this methodology can be used for both exploratory and confirmatory research.

A review of the development of structural equation modelling has been provided by Carmines and McIver (1981), in which they discussed the two main types of inferences relevant to the social sciences. These included the focus on causal relationships among unobserved or latent variables and inferences concerned with measurement. In relation to the former, a structural influence poses the following question, "Do changes in X produce changes in Y?" (Carmines and McIver, 1981, p. 65).

In respect to the latter, Carmines and McIver (1981) suggested that problems can arise in the social sciences or behavioural research because many of the concepts and constructs which are the subjects of such research cannot be directly observed or measured. These hypothetical constructs and concepts, or latent variables, can only be measured indirectly through the use of empirical indicators. Each indicator has a relationship with the observed variable, but several indicators of each latent variable should be used to obtain an accurate measurement of the latent variable.

Carmines and McIver (1981) discussed how methodologies were developed, in isolation, for estimating parameters of structural equation systems and of factor analytical models. Due to these separate developments, researchers were forced to follow a two-step sequential procedure to examine causal relationships among latent variables. These steps included a factor analysis of each set of measured variables to

obtain a single derived composite variable followed by the use of these factor derived composites in the causal modelling process.

Two main problems with such a sequential approach have been noted by Carmines and McIver (1981) and Martin (1987). First, this procedure treats theoretically, measurement and causal inferences as separate and distinct, rather than being related to one another. Second, as the methodology is essentially ad hoc and lacks statistical justification, the properties of the parameter estimates derived from the procedure are unknown.

Such problems appear to have been overcome by the development of structural equation modelling. Martin (1987) has described the advantages of structural equation modelling in some detail. He explained that because of the simultaneous performance of the factor analytical and multiple-regression procedures, the error and unexplained variance can be included as part of the causal theory which is being tested. Furthermore, substantial statements about the error and unexplained variance can be kept separate from discussions about the portion of the variance attributable to neither of these two phenomena. Therefore, according to Martin (1987), inferences about the hypothetical constructs as operationalised by the multiple measures can be distinguished from any confounding effects both of error inherent in the construction of a composite measure of the constructs and of variability in the items which is unrelated to the constructs (p. 34)

In discussing the superiority of structural equation modelling, by comparison with traditional statistical techniques, Martin (1987) made two summarising comments. First, researchers must be explicit in explaining

the causal theory which is the motivation for the statistical tests, a facet with which Mulaik (1987) agreed. Second, as the error of measurement can be separated from the error-free component of the operationalisation, various hypotheses about the error can be included in the statement of the testable causal model.

Despite the advantages which structural equation modelling has over traditional statistical techniques, Martin (1987) warned of limitations to the statistical power of this approach. First, structural equation modelling is based on highly restrictive assumptions, an aspect which Mulaik (1987) has examined in some detail and which is reviewed in a subsequent part of this discussion. Second, structural equation modelling requires a large sample size. The issue of sample size has been examined by other researchers. Biddle and Marlin (1987) postulated that when using ordinary least squares regression analysis, which can be used in structural equation modelling, the researcher should not use more than N/10 - 2 variables (where N = the number of respondents generating data in the correlation matrix). For example, where the number of respondents is 120, the maximum number of variables should be 10. Alternatively, Tanaka (1987) suggested that the use of maximum entropy estimation for undersized samples obviates the need for large sized samples. Furthermore, he stated that maximum entropy estimation can also be used in cases in which undersizedness does not exist by strict definition, but where the researcher is uncomfortable with the available sample size. The third caution which Martin (1987) outlined was that structural equation modelling methods are subject to the same major logical limitations concerning causal inference as the more simple correlational methods. Thus, the specification of causal direction *a priori* is of particular importance.

The logic of structural equation modelling has been examined by Martin (1987) and Biddle and Marlin (1987). From the discussions presented by these authors, three steps in the structural equation modelling process can be discerned:

(1) the preparation of an unambiguous statement about presumed relations among hypothetical variables;
(2) operationalisation of the major variables; and
(3) testing the theoretical model against data which expresses observed relations among measures of variables which were generated in field research.

The importance of *a priori* considerations in the use of structural equation modelling has been acknowledged by many researchers (for example, Carmines and McIver, 1981; Bentler, 1980; Biddle and Marlin, 1987; Martin, 1987; and Mulaik, 1987). In a detailed discussion on this initial step in structural equation modelling, Mulaik (1987) presented a number of key procedures which researchers should follow to ensure accuracy. Briefly, these procedures include:

(1) clearly identifying the sample characteristics;
(2) specifying the causal mechanism by which the effect is produced or transmitted;
(3) demonstrating that any changes in the dependent variable will be due only to changes in the causal variables, that is, ensuring closure by identifying and controlling obvious extraneous variables;
(4) hypothesising and testing causal direction;
(5) ensuring the stability of the dependent variable - to each value of the independent variable there must correspond one and only one value

of the dependent variable; and

(6) assuming that the causal relations are linear functions.

Furthermore, to achieve objectivity, that is ensuring that a relation is valid for all data presumed to be generated by the same process, Mulaik (1987) and Carmines and McIver (1981) have stated the necessity of adhering to two requirements. The first of these requirements is identification. To achieve identification enough parameters should be specified *a priori* so that the remaining parameters may be solved from the data, thereby resulting in the determination of a function. The second requirement is the need to specify *a priori* the values of more coefficients than to simply identify the function in the first place. Such a procedure is labelled as overidentification.

Following adherence to the previously discussed principles and the collection of data, the next phase of structural equation modelling involves the interpretation of results. Causal models, both theoretical and data driven, are represented frequently in the form of path diagrams. In such diagrams independent variables are placed on the left side, intervening variables appear in the middle and dependent variables on the right. Arrows are drawn from independent variables to intervening variables, and from both independent and/or intervening variables to the dependent variables. These arrows indicate the causal relations posited in theory and revealed by the data. An example of a path diagram is revealed in Figure 5.1.

In the path diagram shown in Figure 5.1 the independent variables are shown as X_1, X_2 and X_3, the intervening variables as Y_1 and Y_2; and the dependent variable as Y_3. The paths reveal that each independent

variable has an influence on the two intervening variables, while each of the two intervening variables impacts on the dependent variable. The diagram also shows that there are no causal relationships between the independent variables, nor between the intervening variables. Furthermore, the diagram indicates the absence of any direct relationships between the independent variables and the dependent variable.

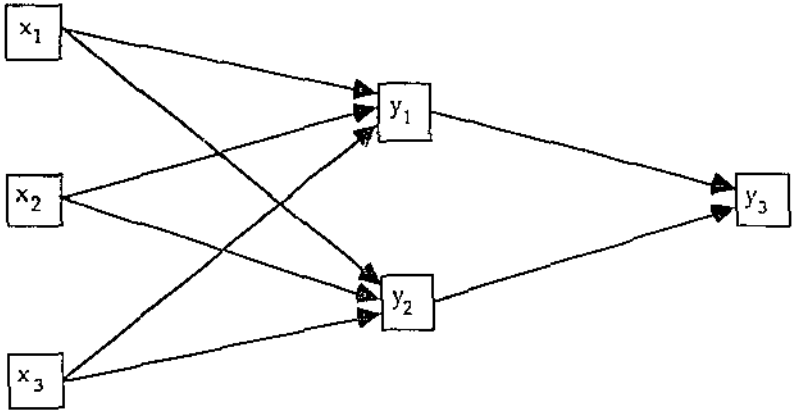


Figure 5.1: Simple path diagram

Despite the advantage that path diagrams provide a visual presentation of a complex argument, Biddle and Marlin (1987) provide a note of caution about path analysis. They suggested that two main problems occur with the interpretation of path diagrams. The first problem is labelled as confusional and relates to the fact that path diagrams are used for several purposes in structural equation modelling. This is compounded by the

absence of agreed upon rules for their use. Biddle and Marlin (1987) refer to the second problem as exclusional. The basis of this problem is that path diagrams may omit required information, for example, the raw correlations from which the regression coefficients were derived, statistically insignificant regression coefficients (and their associated paths), and the absence of information about the significance of differences among regression coefficients.

To overcome these problems Biddle and Marlin (1987) discussed the necessity of including textual information with the path diagrams. In particular, specific tabular information such as the basic correlation matrix and supplementary contingency tables could be provided with the analytical path diagrams. Adherence to these procedures should ensure accurate interpretation of the representative path diagrams.

In the use of confirmatory research involving structural equation modelling, the measurement process to consider "goodness of fit" of the data has caused some debate among researchers. Biddle and Marlin (1987) have stated that despite a claim of model confirmation, this does not necessarily imply validation of the truthfulness or exclusivity of the model. Confirmation indicates that a model provides an acceptable description of the examined data.

Biddle and Marlin (1987, p. 13-15) discussed a number of independently defined criteria which may be used to assess the "fit" of a causal model. Four of these criteria - explained variance; significance or size of coefficients; relative effects magnitude; and capturing of paths - can use ordinary least squares method for prediction. Despite the existence of

problems with the use of these criteria, Biddle and Marlin (1987) consider that each method is an appropriate confirmatory measure.

Three further independently defined measures of "fit" have been proferred by Biddle and Marlin (1987). These include covariance among disturbances, model comparisons, and sample comparisons. Each provide an appropriate confirmatory measure, with the usefulness of each being dependent upon the needs of the researcher.

One of the most debated methods available for the confirmation of causal models is referred to by Biddle and Marlin (1987) as "measure of fit". The index of measurement using this method is chi-square. Basically, the smaller the chi-square measure, the greater the ability of the researcher to claim confirmation of the causal model. However, the use of the chi-square measure has attracted criticisms from researchers such as Bentler (1980), Carmines and McIver (1981), and Biddle and Marlin (1987). Essentially, the concerns of these researchers include the sensitivity of chi-square to sample size, the rejection of the entire model if one part of the model does not fit the data, the possibility that the model confirmed by this method may not be the best model and the effect on the chi-square measure by the extent to which crucial assumptions are violated. In respect to the rejection of the entire model due to the lack of fit of one part of the model, Joreskog (1982) has stated that the Lisrel program can identify the non-fitting part. However, in an overall comment on the use of the chi-square measure, Bentler (1980) suggested that methods besides this measure, such as examining residuals or evaluating coefficients not dependent on sample size, should be used to evaluate goodness of fit of a model to data.

Bentler's (1980) comment on the desirability of using a variety of confirmatory measures is echoed by Biddle and Marlin (1987). However, they also suggested that a causal model may meet one or more of the previously outlined criteria, but not all. Consequently, researchers using structural equation modelling need to approach the issue of model confirmation with some caution, and be wary of making inappropriate claims. Furthermore, Biddle and Marlin (1987) reiterated one of the criticisms of the use of the chi-square measure, but applied this comment to confirmatory methods in general. They suggested that the confirmation of one model does not preclude the existence of a better model for the obtained data.

The discussion on structural equation, or causal, modelling examined the technique in general terms. In reviewing the general concept of structural equation modelling the purpose of this technique was outlined. This was followed by a description of the development of structural equation modelling in response to difficulties inherent within traditional structural and measurement methodologies used in social science research. The advantages and limitations of causal modelling were explored and the characteristics of this methodology were explained: that is, the logic, the assumptions, and the presentation and interpretation of data. The discussion concluded with an analysis of the strategies involved in confirmatory structural equation modelling research.

Overall, the review of structural equation modelling has revealed that this is a sophisticated statistical technique developed to overcome weaknesses inherent in traditional statistical procedures used in social science research. Despite such sophistication the researcher should be careful in the implementation of structural equation modelling. Adherence

to strict assumptions and care with the interpretation of results are of paramount importance. Possibly the advice of Biddle and Marlin (1987, p. 16), who suggested the use of the simplest available structural equation modelling technique which will enable the display and testing of results in a plausible manner, ought to be considered by researchers. In addition, Martin's (1987, p. 35) comment of "no matter how powerful the statistical method, however, no single piece of research is ever likely to achieve the status of 'definitive'", should be remembered when researchers are discussing the interpretation of their statistical data.

The Lisrel VII Model

The Lisrel path analysis model, of which several versions have been developed and refined since the creation of the original model by Joreskog and Sorbom in 1973, has the ability to analyse causal relationships among latent or hypothesised variables. The latest available computer version, Lisrel VII (Joreskog and Sorbom, 1989) includes such procedures as exploratory and confirmatory path analysis, multiple regression analysis, economic models for time dependent data, recursive and non-recursive models for cross-sectional and longitudinal data, and covariance structure models.

The general Lisrel model consists of two components, a measurement model and a structural equation model. The former specifies a mathematical relationship between the observed and the latent, dependent or independent variables. The latter specifies the causal relationships among the latent dependent and latent independent variables. Both of these relationships can be explained and illustrated

using a hypothetical model, complete with standard Lisrel conventions and symbols.

Hypothetical Model

Figure 5.2 represents a structural diagram for a hypothetical model with which to explain aspects of the Lisrel model. As per standard Lisrel conventions (Joreskog and Sorbom, 1989, p. 3-4) the observed variables (x and y) are enclosed in boxes, latent variables (ξ and η) are enclosed in circles or ellipses, the error variables (ε , δ, and ζ) appear in the diagram but are not enclosed, one way arrows (drawn straight) between two variables indicate a direct influence of one variable on another, and two-way arrows (drawn curved) between two variables indicate that these variables may be correlated without any assumed direct relationship.

The model depicted in figure 5.2 shows that a set of observed dependent variables y_i (i = 1-p) are indicators of a set of dependent variables η_i (i = 1-m). This structural diagram shows that the latent variable η_1 is determined by one observed variable (y_1), the latent variable η_2 is manifested by three observed variables (y_2, y_3, and y_4) and the latent variable η_3 is measured by two observed variables (y_5 and y_6).

Also revealed in the diagram is that the latent independent variables ξ_i (i = 1-n) are manifested by a set of observed variables x_i (i = 1-q). The latent independent variable ξ_1 is measured by three observed variables (x_1, x_2, and x_3), and the latent independent variable ξ_2 is determined by two observed variables (x_4 and x_5).

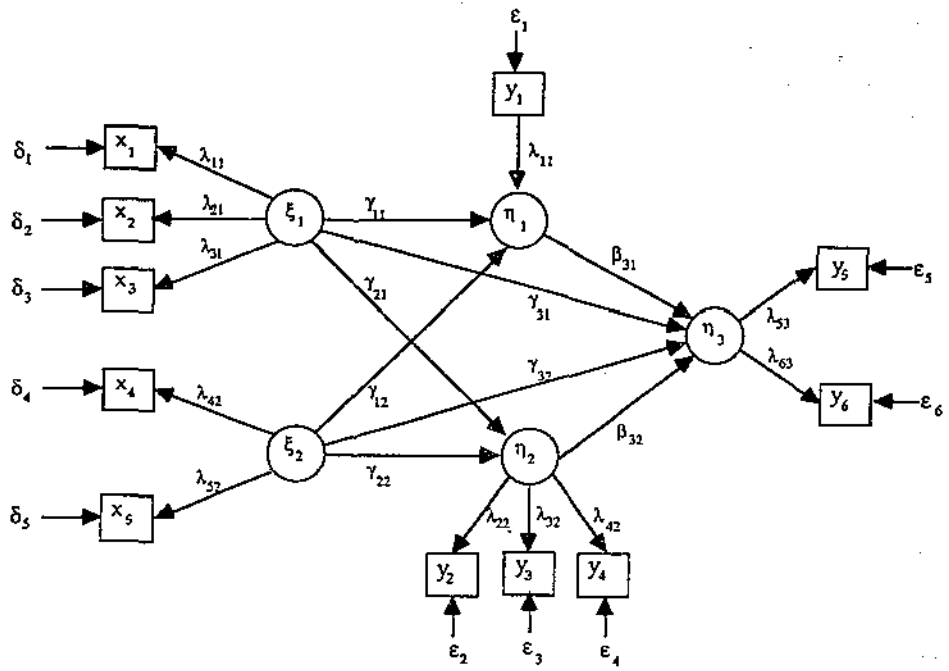


Figure 5.2: Structural diagram of hypothetical model

Utilising path analysis methodology, the structural equations which specify the causal relationships among the latent dependent variables η_i (i = 1-m) and the latent independent variables ξ_i (i = 1-n) may be stated as:

$$\eta_1 = \gamma_{11}\,\xi_1+\gamma_{12}\,\xi_2+\zeta_1 \quad \text{.....(1)}$$

$$\eta_2 = \gamma_{21}\,\xi_1+\gamma_{22}\,\xi_2+\zeta_2 \quad \text{.....(2)}$$

$$\eta_3 = \beta_{31}\,\eta_1+\beta_{32}\,\eta_2+\gamma_{31}\,\xi_1+\gamma_{32}\,\zeta_2+\zeta_3 \quad \text{.....(3)}$$

where, β_{ij} represents the direct causal effect of the dependent variable η_j on the dependent variable η_i;

γ_{ij} represents the direct causal effect of the independent variable ξ_j on the dependent variable η_i; and

ζ_i represents the residual error in the structural equation.

The previously outlined equations may be derived from the full matrix notation:

$$\begin{pmatrix}\eta_1\\ \eta_2\\ \eta_3\end{pmatrix} = \begin{pmatrix}0 & 0 & 0\\ 0 & 0 & 0\\ \beta_{31} & \beta_{32} & 0\end{pmatrix}\begin{pmatrix}\eta_1\\ \eta_2\\ \eta_3\end{pmatrix} + \begin{pmatrix}\gamma_{11} & \gamma_{12}\\ \gamma_{21} & \gamma_{22}\\ \gamma_{31} & \gamma_{32}\end{pmatrix}\begin{pmatrix}\xi_1\\ \xi_2\end{pmatrix} + \begin{pmatrix}\zeta_1\\ \zeta_2\\ \zeta_3\end{pmatrix}$$

which is represented by the matrix equation:

$$\underset{\sim}{\eta} = \underset{\sim\sim}{\beta}\underset{\sim}{\eta}+\underset{\sim\sim}{\Gamma}\underset{\sim}{\xi}+\underset{\sim}{\zeta} \quad \text{.....(4)}$$

where, $\underset{\sim}{\beta}$ is a (m x n) coefficient matrix of latent dependent variables whose elements represent direct causal effects of η variables on other η variables;

$\underset{\sim}{\Gamma}$ is a (m x n) coefficient matrix of latent independent variables whose elements represent direct causal effects of ξ variables on η variables; and

$\underset{\sim}{\zeta}' = (\zeta_1, \zeta_2, \ldots\ldots, \zeta_n)$ is a vector of residuals which represent the errors in the structural equations.

The measurement equations linking the observed and latent variables may be interpreted in terms of regression equations relating the true (latent) variable to the observed variables. Consequently, for a set of latent dependent variables η_i (i = 1-m), and a set of observed dependent variables y_i (i = 1-p), the regression equations are:

$$y_1 = \lambda_{11}\, \eta_1 + \varepsilon_1$$
$$y_2 = \lambda_{22}\, \eta_2 + \varepsilon_2$$
$$y_3 = \lambda_{32}\, \eta_2 + \varepsilon_3$$
$$y_4 = \lambda_{42}\, \eta_2 + \varepsilon_4$$
$$y_5 = \lambda_{53}\, \eta_3 + \varepsilon_5$$
$$y_6 = \lambda_{63}\, \eta_3 + \varepsilon_6$$

where, λ_{ij} is the regression coefficient of y_i on η_j; and

ε_i is the error measurement in y_i.

These regression equations may be generated from the matrix form:

$$\begin{pmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \\ y_5 \\ y_6 \end{pmatrix} = \begin{pmatrix} \lambda_{11} & 0 & 0 \\ 0 & \lambda_{22} & 0 \\ 0 & \lambda_{32} & 0 \\ 0 & \lambda_{42} & 0 \\ 0 & 0 & \lambda_{53} \\ 0 & 0 & \lambda_{63} \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{pmatrix} + \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \varepsilon_3 \\ \varepsilon_4 \\ \varepsilon_5 \\ \varepsilon_6 \end{pmatrix}$$

which is represented in the matrix notation as:

$$\underset{\sim}{y} = \underset{\sim}{\Lambda}_y \underset{\sim}{\eta} + \underset{\sim}{\varepsilon} \qquad (5)$$

where, $\underset{\sim}{y}' = (y_1, y_2, \ldots\ldots, y_p)$ is the vector of observed variables y;

$\underset{\sim}{\Lambda}_y$ is the (p x m) regression matrix of $\underset{\sim}{y}$ on $\underset{\sim}{\eta}$; and

$\underset{\sim}{\varepsilon}$ is the vector of errors of measurement in $\underset{\sim}{y}$.

In a similar fashion, the measurement equations linking a set of observed independent variables, x_i (i = 1-q) with a set of latent independent variables, ξ_i (i = 1-n) are given by:

$$\underset{\sim}{x} = \underset{\sim}{\Lambda}_x \underset{\sim}{\xi} + \underset{\sim}{\delta} \qquad (6)$$

where, $\underset{\sim}{x}' = (x_1, x_2, \ldots\ldots, x_q)$ is the vector of observed variables x;

$\underset{\sim}{\Lambda}_x$ is the (q x n) regression matrix of $\underset{\sim}{x}$ on $\underset{\sim}{\xi}$; and

$\underset{\sim}{\delta}$ is the vector of errors of measurement in $\underset{\sim}{x}$.

The assumptions underlying the Lisrel VII model are stated by Joreskog and Sorbom (1989, p. 2) as including:

(i) ε is uncorrelated with η;

(ii) δ is uncorrelated with ξ;

(iii) ζ is uncorrelated with ξ; and

(iv) ζ, ε, and δ are mutually uncorrelated.

Furthermore, the covariance matrices are represented as:

(i) $Cov(\xi) = \Phi(n \times n)$;

(ii) $Cov(\zeta) = \Psi(m \times m)$;

(iii) $Cov(\varepsilon) = \Theta_{\varepsilon}(p \times p)$; and

(iv) $Cov(\delta) = \Theta_{\delta}(q \times q)$.

As the latent variables η and ξ do not have a definite scale, an origin and a unit of measurement need to be assigned to each. Lisrel VII determines this origin on the assumption that the variables have a mean of zero. The unit of measurement is best assigned by fixing a one in each column of Λ_y and Λ_x. This results in the unit of measurement being defined the same as the unit of measurement of that observed variable (Joreskog and Sorbom, 1989).

Following the specification of the structural equation model and the measurement models for the observed variables on the basis of temporal sequence or pre-existing theory, the Lisrel program may be used to generate a population variance-covariance matrix, $\underset{\sim}{\Sigma}$, from the sample variance-covariance matrix, $\underset{\sim}{S}$, obtained from the observed scores. The model may be retained for further investigation if the difference $\underset{\sim}{S} - \underset{\sim}{\Sigma}$ is

small. However, should the generated matrix not fit the sample matrix, Bohrnsted and Borgatta (1981, p. 69) suggest that the model be rejected. Furthermore, these researchers also indicated that other plausible models ought to be tested with a new set of structural and measurement equations.

Given the assumptions of the Lisrel VII program, the following expected values may be ascertained (after Jongeling, 1988, p. 15-17):

(i) $E(\xi\zeta') = 0$ (ii) $E(\delta\eta') = 0$

(iii) $E(\delta\xi') = 0$ (iv) $E(\zeta\varepsilon') = 0$

(v) $E(\zeta\delta') = 0$ (vi) $E(\varepsilon\delta') = 0$

(vii) $E(\eta) = E(\xi) = 0$.

Let Φ (n x n), Ψ (m x m), θ_ε (p x p) and θ_δ (q x q) be the covariance matrices of ξ, ζ, ε and δ respectively. Then:

$$\Phi = E(\xi\xi') \quad \Psi = E(\zeta\zeta') \quad \theta_\varepsilon = E(\varepsilon\varepsilon') \quad \theta_\delta = E(\delta\delta')$$

A further assumption is that the errors of measurement ε and δ are independent of each other, therefore the matrices θ_ε and θ_δ are diagonal, with the variances of error measurements represented by non-zero elements in the diagonal (Long, 1981, p. 240).

Transposing equation (4) yields:

$$\eta - B\eta = \Gamma\xi + \zeta$$
$$(I - B)\eta = \Gamma\xi + \zeta$$
$$\eta = (I - B)^{-1}\Gamma\xi + (I - B)^{-1}\zeta$$

The covariance matrix for latent dependent variables can be determined:

$$
\begin{aligned}
\text{Cov}(\eta) &= E(\eta\eta') \\
&= E\{[I-B]^{-1}\Gamma\xi+(I-B)^{-1}\zeta][(I-B)^{-1}\Gamma\xi+(I-B)^{-1}\zeta]'\} \\
&= E[[(I-B)^{-1}\Gamma\xi\xi'\Gamma'(I-B')^{-1}]+[(I-B)^{-1}\Phi\xi\zeta'(I-B')^{-1}]+ \\
&\quad [(I-B)^{-1}\Gamma\zeta\xi'(I-B')^{-1}]+[(I-B)^{-1}\zeta\zeta'(I-B')^{-1}]] \\
&= (I-B)^{-1}\Gamma\Phi\Gamma'(I-B')^{-1}+(I-B)^{-1}\Psi(I-B')^{-1} \\
&= (I-B)^{-1}(\Gamma\Phi\Gamma'+\Psi)(I-B')^{-1} \qquad \text{(7)}
\end{aligned}
$$

Since $E(\xi\zeta')=(E\zeta\xi')=0$, the second and third terms of the expansion are equal to zero.

As explained by Joreskog and Sorbom (1989, p. 3), the form of the covariance matrix of the observed variables is determined as:

$$
S = \left(\begin{array}{c|c} \Lambda_y A(\Gamma\Phi\Gamma'+\Psi)A'\Lambda'_y+\Theta_\varepsilon & \Lambda_y A\Gamma\Phi\Lambda'_x \\ \hline \Lambda_x\Phi\Lambda'A'\Lambda'_y & \Lambda_x\Phi\Lambda'_x+\Theta_\delta \end{array}\right)
$$

where, $A = (I-B)^{-1}$.

Joreskog and Sorbom (1989, p. 3) also indicate that the general Lisrel model is specified by fixing and constraining the parameters which comprise the elements in Λ_y, Λ_x, B, Γ, Φ, Ψ, Θ_ε and Θ_δ. These elements include:

(i) fixed parameters, which are assigned specified values;

(ii) constrained parameters, which are unknown, but equal to one or more other unknown parameters; and

(iii) fixed parameters, which are unknown and not constrained to be equal to other parameters.

Maximum likelihood estimation, which maximises the likelihood of the parameters, given the data, is equivalent to minimising:

$$F = \log \Sigma = tr(S\Sigma^{-1}) - \log S - (p-q) \quad (8)$$

As explained by Jongeling (1988, p. 214) this function is based on the assumption that the observed variables have a normal distribution. Consequently, they are most precise in large samples, although moderate deviation from normality is allowed for parameter estimation. Jongeling (1988) then refers to the work of Joreskog and Sorbom (1984) when stating that the associated standard errors for the parameters should be interpreted with caution.

Evaluation of the Lisrel Solution

To evaluate the adequacy of an assumed model, the Lisrel VII program provides five types of information:

(i) standard errors and correlations of the parameter estimates;
(ii) measures of variation accounted for;
(iii) overall goodness of fit measure;
(iv) analysis of residuals; and
(v) model modification indices.

(Joreskog and Sorbom, 1989, p. 23)

The forthcoming discussion on these five types of information will be related to the method of estimation used in the current research, namely, maximum likelihood.

Standard Errors and Correlation of Parameter Estimates

A standard error for each estimated parameter in the units of measurement for the corresponding observed or latent variables are provided by the Lisrel VII program. Furthermore, the program calculates the ratio of the estimate to its standard error (*t* statistic), which are unitless measures.

Standard errors for maximum likelihood estimation are correct under multivariate normality of the observed variables and are strong against moderate departures from normality.

The correlations of the estimates from the information matrix are also calculated by Lisrel VII. Correlations which are very high indicate that the information matrix is close to nonpositive-definite and the model nearly non-identified.

Variation Accounted For

Squared multiple correlations for each observed variable separately and coefficients of determination for all the observed variables jointly, are provided by Lisrel VII. Two other measures are also supplied by this program. These include squared multiple correlations for each structural equation, which indicate the strength of a linear relationship, and

coefficients of determination for all structural equations jointly. Such coefficients are measures of the strength of several relationships jointly.

Joreskog and Sorbom (1989, p. 24) define the squared multiple correlation for the i-th variable as:

$$1 - \frac{\hat{\theta}_{ii}}{\hat{\sigma}_{ii}} \qquad (9)$$

where, $\hat{\theta}_{ii}$ is the estimated error variance; and

$\hat{\sigma}_{ii}$ is the observed variance of the i-th variable.

and the coefficient of determination as:

$$1 - \frac{\|\hat{\Theta}\|}{\|\hat{\Sigma}\|} \qquad (10)$$

where, $\|\hat{\Theta}\|$ is the determinant of $\hat{\Theta}$; and

$\|\hat{\Sigma}\|$ is the determinant of the fitted covariance matrix $\hat{\Sigma}$ of the observed variables.

These two measures reveal the degree to which the observed variables serve, separately or jointly, as measurement instruments for the latent variables. The resultant measure should fall between zero and one, with large values being associated with good models.

Joreskog and Sorbom (1989,p. 24) define the squared multiple correlation for the i-th structural equation as:

$$1 - \frac{\widehat{\text{Var}}(S_i)}{\widehat{\text{Var}}(\eta_i)} \qquad \text{----------(11)}$$

where, $\widehat{\text{Var}}(S_i)$ and $\widehat{\text{Var}}(\eta_i)$ are the estimated variances of S_i and η_i respectively.

Finally, in relation to this measure of model adequacy evaluation, Joreskog and Sorbom (1989, p. 25) define the total coefficient of determination for all structural equations jointly as:

$$1 - \frac{\left\|\hat{\Psi}\right\|}{\left\|\widehat{\text{Cov}}(\eta)\right\|} \qquad \text{----------(12)}$$

where, $\left\|\hat{\Psi}\right\|$ is the determinant of $\hat{\Psi}$, and
$\left\|\widehat{\text{Cov}}(\eta)\right\|$ is the determinant of the estimated covariance matrix of η.

Goodness of Fit Measures

Goodness of fit measures concern the assessment of the overall fit of the model to the data. Lisrel VII provides four measures of overall fit:

(i) chi-square;
(ii) goodness-of-fit index;

(iii) adjusted goodness-of-fit index; and

(iv) root mean square residual.

(Joreskog and Sorbom, 1989, p. 25)

For maximum likelihood estimation, the chi-square measure (χ^2) is (n - 1) multiplied by the minimum value of the fit function for the specified model. The chi-square measure is distributed asymptotically as a chi-square distribution and is correct for maximum likelihood estimation under multinormality of the observed variables if a covariance matrix is analysed. When a covariance matrix is analysed with maximum likelihood, chi-square is correct only if the model is scale-invariant and diag $(\hat{\Sigma})$ = diag (S).

Chi-square should be regarded as a measure of fit in that large values correspond to bad fit, and small values represent good fit. The degrees of freedom gives a standard by which the size of chi-square can be judged.

Joreskog and Sorbom (1989, p. 26) indicate that the chi-square measure is sensitive to sample size and very sensitive to departures from multivariate normality of the observed variables. They state that in large samples, deviations from normality can increase chi-square over and above the expectation because of specification error in the model.

Despite these problems, Joreskog and Sorbom (1989) suggest that chi-square differences between two models can be used to reveal any improvement. Specifically, in the case of a chi-square value which is large compared to the degrees of freedom, an inspection of the fitted residuals, standardised residuals and modification indices can be used to examine and assess the fit of the particular model. The use of such

methods should reveal ways to specify a new model. If the new model results in a large drop in the chi-square value, compared to the degrees of freedom, then the changes in the new model represent a real improvement.

In defining the goodness -of- fit index, Joreskog and Sorbom (1989, p. 27) refer to the work of Tanaka and Huba (1984). Such an index is defined as:

$$GFI = 1 - \frac{(s-\sigma)'W^{-1}(s-\sigma)}{s'W^{-1}s} \qquad (13)$$

where, the denominator represents the fit function before any model has been fitted and the numerator is the minimum of the fit function after the model has been fitted.

The adjusted goodness-of-fit index is defined by Joreskog and Sorbom (1989, p. 27) as:

$$AGFI = 1 - \frac{(p+q)(p+q+1)}{2d}(1-GFI) \qquad (14)$$

where, d is the model's degrees of freedom.

Both the goodness-of-fit index and the adjusted goodness-of-fit index should occur between zero and one. Furthermore, Joreskog and Sorbom (1989) note that although the goodness-of-fit index is not explicitly a function of sample size, the measure is dependent upon sample size.

This index can be used to compare the fit of two different models for the same data and to compare the fit of models for different data.

The fourth measure of overall fit which the Lisrel VII program provides is the root mean squared residual and is defined by Joreskog and Sorbom (1989, p. 27) as:

$$RMR = \left[2\sum_{i=1}^{p+q} \sum_{j=1}^{i} (s_{ij} - \sigma_{ij})^2 / (p+q)(p+q+1) \right]^{1/2} \quad \text{(15)}$$

and represents the average of the fitted residual. According to Joreskog and Sorbom (1989) this measure can only be interpreted in relation to the sizes of the observed variances and covariances in **S**, and works best if all observed variables are standardised.

In discussing the use of chi-square, goodness-of-fit indices and root mean squared residual as methods for evaluating the overall adequacy of assumed models, Joreskog and Sorbom (1989) emphasise that these measures fail to express the quality of the model judged by any other internal or external criteria. In addition, should any of these measures reveal that the model does not fit the data satisfactorily, they neither indicate the source of the error within the model nor the problem with the model itself.

Analysis of Residuals

Analysis of residuals is obtained by using estimates of the parameters and computing from the formula for the covariance matrix of the observed variables the matrix $\hat{\Sigma}$, which is named the "fitted covariance matrix"

(Joreskog and Sorbom, 1989, p. 28). Such a matrix can be useful for checking model identification.

While the elements of $S - \hat{\Sigma}$ (the difference between the sample moment matrix and the fitted matrix) represent "fitted residuals" (Joreskog and Sorbom, 1989, p. 109), standard residuals are the residuals divided by their standard errors. The formula used by the Lisrel VII program to calculate standardised residuals is valid for maximum likelihood estimation under normal theory.

Joreskog and Sorbom (1989, p. 28, 109-111) suggest that, in relation to the use of standardised residuals as a method for model adequacy evaluation, such a process is made easier by analysing the summary statistics, presenting a stem-and-leaf display of the residuals, listing the outlying residuals, and constructing a quantile plot.

Model-Modification Indices

The model-modification indices are measures which are related to the fixed and constrained parameters of the model. For each parameter, the index is a measure of the predicted decrease in the value of chi-square should a single fixed parameter or equality constraint be relaxed, and the model re-estimated. For maximum likelihood estimation these indices may be evaluated by means of a chi-square distribution with one degree of freedom. The fit of the model will be improved maximally with the relaxation of that fixed parameter which corresponds to the largest modification index. A reduction in chi-square, which is expected to equal the modification index, indicates model improvement.

In addition to providing measures of expected improvement of fit, Lisrel VII also predicts the estimated change of each fixed and constrained parameter.

As mentioned previously, modification indices are also useful for equality constraints. Lisrel VII uses the notation MI (θ) for the modification index of θ and CH(θ) for the estimated change in θ. Thus, in the case of three modification indices θ_1, θ_2 and θ_3, there will be three modification indices MI(θ_1), MI(θ_2) and MI(θ_3), which will generally not be equal. For this example, MI(θ_3) indicates the predicted decrease in chi-square if θ_3 is freed, while the equality constrained $\theta_1=\theta_2$ is retained and CH(θ_3) measures the predicted change in θ_3 under this condition.

Research Paradigm

An important component of any research study is the categorisation of the inquiry into its predominant research paradigm. The current trend in educational research is characterised increasingly by critical and naturalistic approaches. The present study differs from this trend by adopting a rationalistic approach. The following discussion will demonstrate how the current investigation adheres to the criteria of the rationalistic paradigm.

Writers such as Candy (1989), Guba (1981), Guba and Lincoln (1982) and Jongeling (1992) have observed that most research studies include a mix of methodological approaches. However, this does not preclude categorising an inquiry into one of the research paradigms. In determining the selection of a research paradigm for a particular inquiry Guba (1981), Guba and Lincoln (1982) and Jongeling (1992) have

provided a number of criteria which can be used for the purpose of classification. Jongeling (1992) proposed five criteria which can be used to categorise research. These include the nature of the research question, the type of measurement used, claims to knowledge, research methods used and the nature of the research report. While in general agreement with the criteria proposed by Jongeling (1992), other writers such as Guba (1981) and Guba and Lincoln (1982) also suggested that methods used to establish the trustworthiness of the results can be used to classify the research approach in question.

The Nature of the Research Question and the Use of Measurement

In rationalistic inquiries the research question usually involves a focus on some specific issue or issues. By comparison, critical research questions imply a social issue which is best regarded in the light of sociological theory, while the response to naturalistic research questions usually require a descriptive account. Clearly, the research questions of the present study, viz:

(1) the development of a self-report instrument to identify the prevalence and sources of occupational stress;
(2) the determination of the levels and sources of perceived occupational stress;
(3) the investigation of any differences in the perceptions of stress and stressors when categorised by socio-biographical characteristics;
(4) the investigation of the relationship between occupational stress and satisfaction; and

(5) the investigation of the adequacy and effectiveness of a causal model of teacher stress based on *a priori* theoretical assumptions and temporal sequence of events using the method of path analysis;

indicate a focus on specific issues, a characteristic of the rationalistic paradigm.

In regard to the use of measurement, Jongeling (1992) stated that a rationalistic study defines and measures precisely the key identified variables. Critical researchers examine issues in relation to a particular sociological theory and naturalistic researchers describe phenomena in their natural environment. The present study defines and measures precisely the key variables used to answer the research questions. These variables include occupational stress, occupational satisfaction, occupational stressors and socio-biographical characteristics. Qualitative data are also collected, which is characteristic of a naturalistic approach. However, these qualitative data are used to explore issues related to, but not part of, the research objectives. Consequently, in terms of the use of measurement in achieving the study's objectives, the present investigation can be categorised as being rationalistic.

The previous discussion indicates that the present study could not be categorised within the critical approach. Consequently, the forthcoming analysis will concentrate on applying characteristics of the rationalistic and naturalistic approaches to the present study.

Claims to Knowledge

Jongeling (1992) asserted that the claims to knowledge which a particular research study is based upon can be called axioms (assumptions upon which the research method is based). These axioms include the nature of reality, the inquirer-object relationship, the nature of the truth statements, explanations of events, the role of values, the purpose of the research and the role of theory.

The Nature of Reality

Rationalistic research examines tangible or measurable issues using a systematic approach with accurate measurements. Variables are singled out for study and measured using appropriate scales. By comparison, research in which variables cannot be defined clearly requires a naturalistic approach. Such an approach, in relation to this axiom, is characterised by a holistic study of the intangible realities.

The present research, in regard to the nature of reality, is representative of the rationalistic paradigm. Scales were developed to measure the relevant identified tangible variables and a systematic approach to data collection is discernible.

The Inquirer-Object Approach

The present researcher maintained, in accordance with rationalistic assumptions, both a discrete and discreet approach to the collection of data relevant to answering the objectives of the investigation. This was

achieved through the development of an instrument completed by the research subjects independent of the presence of the researcher.

Some data were collected using a naturalistic approach, that is, by conducting interviews with some of the research subjects. However, the collection of such data was undertaken to acquire descriptive information about the causes of teacher stress, to identify common underlying emotions and feelings which could not be deduced from the responses to the questionnaire, to highlight issues raised in discussions with principals during questionnaire distribution and collection, and to illuminate written comments made by teachers on the questionnaires.

As such, this qualitative information is supplementary to the achievement of the study's objectives. Consequently, in terms of the main thrust of the present investigation, the naturalistic approach evident by the collection of qualitative data, while acknowledged, played a relatively minor role in the overall study.

The Nature of Truth Statements

The results of the present research are written in the form of propositional knowledge, that is, interpersonally shareable statements couched in terms of measurement. However, in terms of generalisability the distinction between rationalistic and naturalistic approaches is not as clear. While rationalistic research rests on the assumption that generalisations are context-free, the sample characteristics of the present study tend to prevent the generalisation of the findings beyond the particular context - Government, metropolitan, non-priority primary schools with non-teaching principals. Thus, in terms of the nature of the truth statements, the

present study exhibits an interesting mixture of both rationalistic and naturalistic assumptions.

Explanation of Events

The objectives of the present study focus on a specified number of variables and the relationships between them. In doing so, explanation for the relationships is sought. Such an approach is characteristic of a rationalistic approach. In contrast, naturalistic researchers tend to explore a complex web of factors in an attempt to understand, rather than seek causes, of events.

The Role of Values

While acknowledging that all research is value-laden to some degree (Guba 1981; Guba and Lincoln, 1982; Jongeling 1992), studies can, nevertheless, be categorised according to the degree of the role of values exhibited in the inquiry. The present study uses a great deal of measurement, characteristic of the rationalistic paradigm, in an attempt to control bias. A naturalistic approach, by comparison, uses less measurement, and is more subject to the interrelationship of the values of both the researcher and the subjects.

The conceptual framework of the present study emphasises the achievement of measurable outcomes which can be used by management in policy formulation, that is, a technocratic viewpoint prevails. Such an approach is consistent with rationalistic research.

The Purpose of Research

The data collected in relation to the objectives of the present research has the potential to be used by policy-makers in the Government education system to formulate strategies to control and reduce occupational stress among primary school teachers. Such use of data is characteristic of the rationalistic paradigm. By comparison, the naturalistic researcher strives to provide an interpretation of human behaviour in a given context. This type researcher is interested in the ways people are influenced by a particular social environment, and how they interpret and respond to this environment.

The Role of Theory

The development of a causal model of teacher stress, based on *a priori* theory, is another example of the rationalistic nature of the present study. Such theory has been discussed previously in the section in this chapter on structural equation modelling. This contrasts directly with the naturalistic approach in which researchers are guided by the inquiry problem rather than *a priori* theory.

Research Methods

Essentially, a rationalistic approach is characterised by quantitative methods while naturalistic researchers prefer to use a qualitative methodology. The present research is characterised by both of these approaches. However, the quantitative data are used to address the objectives of the study. The qualitative information is used to explore issues which are ancillary to these objectives.

The Written Report

The present study encompasses characteristics both of the rationalistic and naturalistic paradigms. Quantitative data collected in response to the study's objectives are presented in a statistical format with accompanying written analysis. The qualitative data are presented in a discursive format, characteristic of the naturalistic approach. Again the distinction must be made between the rationalistic approach being used to respond to the study's objectives and the naturalistic approach being used to describe qualitative information ancillary to the objectives.

Establishing the Trustworthiness of Results

Guba (1981) and Guba and Lincoln (1982) have suggested that four questions require investigation in relation to establishing the trustworthiness of results. These questions refer to the truth value, applicability, consistency and neutrality of the collected data.

In regard to the establishment of the truth value of an investigation's findings rationalists use internal validity, while naturalistic researchers test the credibility of their results. Applicability is demonstrated in rationalistic research by showing that the data have been collected from a representative sample about which the generalisation is sought. Naturalistic researchers seek transferability, that is, the formulation of working hypotheses which may be transferred from one context to another depending on the degree of fit between the contexts.

Rationalistic researchers check consistency by assessing the reliability of their instruments. By comparison, naturalistic researchers assess consistency by investigating the dependability of their data. Dependability, in this instance, is defined as "stability after discounting ... conscious and unpredictable (but rational and logical) changes" (Guba and Lincoln, 1982, p. 247). The fourth question of neutrality is referred to by rationalistic researchers as objectivity. As such, rationalistic researchers achieve objectivity by explication of methods, openness to public scrutiny, replicability and being at least one step removed from direct investigator-subject contact. Researchers using a naturalistic approach refer to the confirmability of their data. This is achieved through methods such as prolonged engagement at a site, persistent observation, peer debriefing, triangulation, referential adequacy materials and member checks (Guba and Lincoln, 1982, p. 247).

By comparing the treatment of the data collected in the present study which was used to respond to the research objectives, characteristics of the rationalistic paradigm dominate. Certainly, member checks were used to confirm the accuracy of the information collected by interview. However, as has been discussed previously, such information was ancillary to the study's objectives.

Summary

The aim of this section of Chapter V was to discuss the present study in terms of a relevant research paradigm. The discussion focussed on applying the characteristics of rationalistic and naturalistic approaches to the current investigation. While characteristics of both paradigms were evident, the rationalistic approach was demonstrated to be the dominant

paradigm in terms of the degree of fit between the criteria used for categorisation and the phenomena being studied.

Summary

The methodology of the present study encompassed nine main aspects, each of which comprised a section of this chapter. First, the preparatory phase of the study was explored. This included writing letters to the Ministry of Education, the State School Teachers' Union of Western Australia and the Western Australian Primary Principals' Association seeking support for this investigation.

The second aspect related to the sampling procedure. Essentially, the teachers who participated in the present study were employed in Government primary schools with non-teaching principals located in metropolitan Perth and which did not receive priority funding.

Third, the sources used to develop the research instrument were outlined. These encompassed a review of previous research, interviews with teachers, consideration of recent contextual influences and a pilot study. the latter having been derived from the initial three sources. Also included in this section was the timeline of the implementation of the research instrument together with an explanation of the development and purposes of each of the eight parts of the instrument.

Consideration of ethical concerns was discussed in the fourth section of this chapter. The main concerns in this respect was maintaining the anonymity of teachers who volunteered to be interviewed, and the possible creation of undue pressure on those who completed the

questionnaire. Solutions to these issues were incorporated in the design of the research instrument in the former case, and in the time allocated for questionnaire completion in the second.

The distribution and collection procedures for the questionnaire were described in the fifth section of the chapter. Essentially, the main steps included writing letters to the principals of schools selected to take part in the study, making telephone calls to these schools to ascertain the response form the staff and to make the necessary arrangements, and the personal delivery and collection of the questionnaires.

Collation of the data was discussed in the sixth section of the chapter, and was followed by a discussion on the acquisition of qualitative information. Guba's (1979) suggestions formed the basis of this procedure, while the method used to contact the potential interviewees was also outlined. The final part of this seventh section considered the interview format and verification of the content of each interview.

The eighth section discussed the main statistical procedure used in the present study namely, structural equation or causal modelling. This relatively lengthy section included an introduction to the general principles of structural equation modelling, before examining the specific technique used to develop a causal model of teacher stress, Lisrel VII.

The final section of this chapter explored the present study in terms of an appropriate research paradigm. While characteristics of both the rationalistic and the naturalistic approaches were evident, the former paradigm was shown to be the most appropriate category for the current

investigation in terms of the degree of fit between the classification criteria and the phenomena being investigated.

CHAPTER VI

RESULTS AND ANALYSIS OF DATA

Introduction

The aim of this chapter is to demonstrate how the collected data is used to complete the first four objectives of the present study. In doing so, the first section of the chapter describes the socio-biographical characteristics of the teachers who participated in the study. The second section analyses the various components of the research instrument. Included in this section are estimates of internal consistency and factor analyses of the multi-item scales used in the questionnaire.

The prevalence of perceived occupational stress among the teachers who completed the research instrument is discussed in the third section of this chapter. Within this discussion is included the results of chi-square analyses which were applied to determine if significant differences were evident in the number of responses to the categories in both the single-item question on occupational stress and the Felt Effects Scale.

Following the discussion on the prevalence of stress among teachers, the next two sections examine the perceived sources of occupational stress. Section four outlines the means and standard deviations of each of the potential stress sources. The five most and three least sources of stress are also outlined. The fifth section of this chapter discusses the results of the factor analysis procedures which were applied to the data on sources of stress. The differences in responses to perceptions of stress and stress factors when categorised by socio-biographical characteristics of

teachers are examined in the next section, with the final part of the chapter being devoted to discussing the relationship between occupational stress, satisfaction and attitude towards teaching.

Socio-Biographical Data

The sample of primary school teachers who participated in the present study were from Government, non-priority schools located in the metropolitan area of Perth. Furthermore, these schools had non-teaching principals. As revealed in Table 6.1, two hundred and sixty-four such teachers completed the questionnaire. This represented an effective return rate of thirty-five per cent. Reasons for the relatively low return rate, as communicated to the present researcher by letters and conversations on the telephone, included:

(1) Ministry of Education and Union support for the study, due to a perceived lack of commitment from these organisations towards their members;
(2) teachers had already completed several questionnaires and did not want to respond to any more, particularly as they had received little or no feedback from previous projects;
(3) disinterest;
(4) teachers could not perceive any reason to participate because, in their opinion, nothing useful would result from the research;
(5) lack of time and too busy;
(6) one staff group had not responded to the request to complete the questionnaire, from which the principal had concluded that they were not interested; and

(7) the request to participate was not communicated to the staff because the administrative team believed that the staff were too busy.

Table 6.1
Socio-Biographical Data of Respondents

Characteristic	Group	Number	Per cent of total
Sex	Male	58	22
	Female	206	78
Age	20-30	61	23.1
	31-45	149	56.4
	over 46	54	20.5
Length of Teaching Experience	0-10	117	44.3
	11-20	97	36.7
	over 21	50	19
Year Level Taught	K-3	121	45.8
	4-7	143	54.2
Level of Qualification	3 year	168	63.6
	4 year or more	96	36.4
Type of Employment	Full-time	225	85.2
	Part-time	39	14.8
Category of Employment	Permanent	223	84.5
	Temporary	41	15.5

These reasons provide some interesting information on teachers who were approached to complete the questionnaire. First, there would appear to be some feelings of antipathy among primary school teachers towards both the Ministry of Education and the State School Teachers' Union of Western Australia (this issue is discussed further in Chapter

VIII). Second, some teachers have developed a cynical attitude towards participating in, and the relevance of, surveys. Third, time pressures, a cause of stress identified in previous research (refer to Chapter III), precluded the participation of a number of teachers in the present study. (These issues are discussed further in Chapter VIII).

The influence which the low return rate has on the present study's sample representativeness in regard to the teaching population employed in the specified school category is an interesting question. Such a consideration has been discussed in previous research by Kyriacou and Sutcliffe (1977a). These researchers debated the issue from two perspectives, the first of which suggested that a sample with a low return rate could be unrepresentative because teachers experiencing greater stress may be either too exhausted to complete the questionnaire or too reluctant to admit suffering from stress. However, they also suggested that unrepresentativeness could result from the fact that teachers experiencing stress were more likely to respond to the questionnaire. After discussing these issues, Kyriacou and Sutcliffe (1977a, p. 169) came to the conclusion that "...the degree to which the data obtained may be representative of the prevalence of teacher stress among all the teachers to whom questionnaires were sent is equivocal". Consequently, the results of the present study should be considered within the stricture outlined by Kyriacou and Sutcliffe (1977a).

The information revealed in Table 6.1 indicates that the majority of teachers who completed the questionnaire were female, three-year trained, full-time and permanent. In respect to age group, over half the teachers were aged between thirty-one and forty-five years. Only approximately twenty per cent were aged over forty-six years. Eighty-one

per cent of the subjects had taught for twenty years or less, with over forty-four per cent in their first ten years of teaching. This latter figure would seem to indicate a relatively inexperienced teaching workforce within the surveyed schools. Of the teachers who completed the questionnaire, slightly over fifty-four per cent taught years four to seven, and the remainder taught classes from pre-school (K) to year three.

The Development of a Self-Report Teacher Stress Instrument

The first aim of the present study was to develop a self-report teacher stress instrument. The stages in the development of such an instrument have been outlined previously in Chapter V. This section will discuss the results of analytical procedures applied to the components of the instrument which measured occupational stress, occupational satisfaction and attitude towards teaching. This discussion will examine the results of factor analytical procedures applied to the multi-item scales used in the instrument, the relationships between the single-item and multi-item measures of occupational stress and satisfaction, and measures of internal consistency for each of the multi-item scales.

Aspects of Job Satisfaction

Section five of the questionnaire used in the present study contained six items which measured aspects of job satisfaction. These items had been used previously in a study of teachers' duties and responsibilities conducted by the Ministry of Education (1990c).

Participants were asked to respond to each item on a seven-point Likert-type of scale, with the responses ranging from strongly agree to strongly

disagree. The items were scored from seven for the most positive response to one for the most negative response. The data obtained from the six items were subjected to a principal component analysis. In addition, the responses were added arithmetically to obtain a total satisfaction score.

Aspects of Job Satisfaction Analysis

Table 6.2 indicates the results of the final principal component analysis. The initial analysis revealed a weak factor loading (0.332) for item three - "I'm always being told what to do by my superior". Consequently, the final analysis omitted this item.

Table 6.2
Factor Loadings for Aspects of Job Satisfaction Scale After Principal Component Analysis

Item	1	Communalities
1. When I finish work I generally feel that I have achieved something.	0.720	0.518
2. I only work in this job because I need the money.	0.742	0.551
4. My work involves considerable scope and variety.	0.617	0.380
5. If I stopped work at this school I would really miss my friends here.	0.473	0.224
6. When I'm at work I can't wait until it is time to go home.	0.750	0.563
Eigenvalue	2.237	

The five items which were subjected to the final principal component analysis all loaded strongly on the one factor, which can be labelled job

satisfaction. Four of the items had a factor loading exceeding 0.6, with the factor loading for item five being 0.473. These results demonstrate that the five items appear to measure a unidimensional unit identified in this study as job satisfaction. A reliability coefficient, Cronbach's alpha, was also calculated for this scale. The resulting figure of 0.67 appears to indicate that the composition of the Aspects of Job Satisfaction Scale may require revision.

The Felt Effects Scale

The Felt Effects Scale is a ten-item instrument developed by Baldock (1984) in a study on stress among staff in a tertiary education institution. The scale was also used successfully by Jongeling (1990) in a study of stress among the nursing profession. Respondents are asked to rate their response to each of the items as rarely, sometimes and often. The scoring of the responses has been discussed previously in Chapter V.

Felt Effects Scale Analysis

The data obtained from the responses to the Felt Effects Scale was subjected to a principal component analysis, and the results of this procedure are presented in Table 6.3.

Essentially, the results of the principal component analysis revealed the existence of one factor, with the lowest factor loading of the ten items being 0.575. Given that the Felt Effects Scale was designed as a unidimensional measure of stress, such a result confirms the intent of the instrument. Furthermore, this scale exhibited a high degree of reliability, with a Cronbach's alpha coefficient of 0.84.

Table 6.3
Factor Loadings for the Felt Effects Scale After Principal Component Analysis

Item	1	Communalities
1. I feel disinclined to go to work.	0.575	0.331
2. I have difficulty concentrating on things when I want to.	0.681	0.464
3. I have sleeping difficulties.	0.580	0.336
4. I suffer from nagging pain.	0.598	0.358
5. I am easily irritated by small things.	0.681	0.464
6. I have a strong urge to cry.	0.670	0.448
7. I feel depressed, down in the dumps.	0.757	0.573
8. I feel dizzy or "floaty" for no apparent reason	0.647	0.419
9. I feel afraid.	0.581	0.338
10. I'm very fatigued for no good reason- a real loss of energy.	0.740	0.548
Eigenvalue	4.283	

The Semantic Differential Attitude Scale

The Semantic Differential Attitude Scale was developed by Osgood (Osgood, Suci and Tannenbaum, 1957) to measure the connotative meaning of concepts as points in, what he labelled, "semantic space". Extensive investigation by Osgood (Osgood et al., 1957) revealed that all concepts had some general meanings which could be measured and studied by the use of suitable bi-polar adjectives. Examples of such adjectives include good-bad, positive-negative and so on. Each set of adjectives is separated by a seven-point scale, with a single stimulus concept presented at the head of the list of the bi-polar adjectives. Respondents are asked to rate the stimulus concept by placing an "X" somewhere on the seven-point scale. The results for the entire group are

factor analysed to determine the loadings of the adjective pairs on the underlying factor structure.

The present study used ten bi-polar adjectives derived from the evaluative factor, which Snider and Osgood (1969) described as being strongest for the concept "teacher". Furthermore, Kerlinger (1976, p. 570) suggested that researchers need only use the evaluative factor in studies of attitudes and values. This factor formed the basis of the semantic differential scale in the present investigation. The single-stimulus concept at the head of the ten bi-polar objectives was "teaching and you".

Responses to the bi-polar adjectives can be added arithmetically. Assuming that the evaluative factor also serves as a "definition of the term 'attitude' ", Nunnally, (1967, p. 537), suggested that the summated scores on the evaluative factor scale should then "...serve well as measures of verbalized attitudes" (Nunnally, 1967, p. 537). Scoring of the semantic differential ranges from one for a favourable reaction to seven for an unfavourable reaction, thus the extreme range of scores for the present study using a semantic differential of seven items will be from ten to seventy. A low score indicates the most positive attitude and a high score the least positive attitude.

The scores obtained by the arithmetical summation of the semantic differential responses were used as a comparative measure against satisfaction and stress scores. Given the general pattern of the relationship between teacher occupational stress and satisfaction discussed in the literature review, (viz. the more highly stressed teachers tending to be less satisfied), teachers who perceive their occupation to be

stressful would be expected to be characterised by high scores on the semantic differential scale.

Semantic Differential Analysis

The responses of the two hundred and sixty-four teachers who completed the semantic differential scale were subjected to a principal component analysis and varimax rotation. Table 6.4 reveals the rotated factor loadings, communality estimates and eigen values.

Table 6.4
Factor Loadings for the Semantic Differential Attitude Scale After Varimax Rotation

Adjective Pair	Orthogonally Rotated Factor Loadings 1	11	Communalities
1. Good-Bad	0.644	0.517	0.683
2. Positive-Negative	0.679	0.539	0.752
3. Meaningless-Meaningful	0.314	0.634	0.501
4. Useful-Useless	0.220	0.705	0.546
5. Heavenly-Hellish	0.783	0.179	0.645
6. Painful-Painless	0.776	0.108	0.615
7. Pleasant-Unpleasant	0.756	0.306	0.666
8. Awful-Nice	0.787	0.287	0.702
9. Valuable-Worthless	0.249	0.852	0.789
10. Important-Unimportant	0.149	0.859	0.761
Eigenvalues	3.518	3.147	6.665

Within the ten bi-polar adjectives the varimax rotation yielded two factors. Factor one, comprised adjective pairs one, two, five, six, seven and eight, while the second factor included adjective pairs three, four, nine and ten. Given that the bi-polar adjectives were derived entirely from the evaluative factor, such a result is of some interest. Factor one, appears to

indicate the impact of teaching on the individual, as illustrated by the adjective pairs heavenly-hellish and painful-painless. Factor two, which comprised four adjective pairs, could well indicate individuals' judgements of the value or worth of their occupation, as identified by the adjective pairs useful-useless and important-unimportant. The respective alpha coefficients of reliability for each of these factors were 0.89 and 0.81.

Measurements of Occupational Stress and Satisfaction

To determine the existence of any relationship between each of the scales used to measure occupational stress and satisfaction, Pearson product-moment coefficients were calculated. The results of these calculations are shown in Table 6.5.

Table 6.5
Correlation Coefficients of Measures of Occupational Stress and Satisfaction

	Single-Item Satisfaction	Single-Item Stress	Aspects of Job Satisfaction	Felt Effects Scale
Single-Item Satisfaction	1.0			
Single-Item Stress	0.39923*	1.0		
Aspects of Job Satisfaction	0.58986*	0.34980*	1.0	
Felt Effects Scale	0.40518*	0.56947*	0.44184*	1.0

*p<.05

Essentially, the correlation coefficients in Table 6.5 are in, what McMillan and Schumacher (1984, p. 198) describe as the "middle range".

According to these researchers, correlation coefficients which occur within this range are useful for group predictions. Furthermore, McMillan and Schumacher (1984) suggested that in studies which investigate relationships, correlations as low as 0.30 or 0.40 are useful, but in regard to using them for estimates of reliability and/or validity, coefficients greater than 0.40 are required. Within these parameters, an examination of the relationships between each of the previously outlined measurement scales will comprise the ensuing discussion.

Occupational Stress

Two measures of occupational stress were included within the research instrument. These included a single-item question and the Felt Effects Scale (Baldock, 1984). High scores on these measures indicated that a teacher was suffering some degree of occupational stress.

Results of this study showed that a reasonable, but not strong relationship, as evidenced by a correlation coefficient of $r=0.57$ (coefficient of determination of $r^2=0.32$), existed between the single-item question and the Felt Effects Scale. Such a relationship indicated that responses to one measure are reflected in the other measure. Thus, a single-item question can be used with some confidence to determine the prevalence of stress in the teaching profession. This finding confirms the opinion discerned in the literature (for example, Bernard, 1990; Kyriacou and Sutcliffe, 1978b; Otto, 1986a) about the usefulness of the single-item question. Continued investigation into the value of the single-item question, by comparison with multi-item measures, should prove to be of benefit for researchers investigating teacher stress, particularly in the light

of the average relationship between the single-item question and multi-item Felt Effects Scale found in this study.

Occupational Satisfaction

Two scales were used to determine the occupational satisfaction of the teachers who participated in the present study. These scales included the single-item question and the five-item scale referred to as "Aspects of Job Satisfaction". The lower the score on these scales, the greater the degree of occupational satisfaction.

The correlation coefficient between the single-item question on occupational satisfaction and the Aspects of Job Satisfaction Scale of $r=0.59$ ($r^2=0.35$) indicates a reasonable degree of predictability of one measure on the other. That is, teachers who responded positively to one scale, reacted in a similar manner to the other. These results indicate that the single-item question on occupational satisfaction can be used with some confidence in research involving members of the teaching profession. This has important implications for the design of research instruments.

Prevalence of Stress

Two measures of stress levels were used in the present study. The first examined occupational stress by asking teachers to respond to the question,

In general, how stressful do you find being a teacher?

Teachers were asked to rate their response on a five-point Likert scale. The higher the score, the greater the degree of perceived stress. Second, teachers were asked to complete the Felt Effects Scale (Baldock, 1984). Essentially, scores on this scale of between six and twelve indicate serious stress levels, while scores over twelve reveal very serious levels of stress. Other details of both of these measures have been discussed previously in Chapter V.

The frequency of responses to the single-item question, categorised by socio-biographical characteristics, is presented in Table 6.6. The responses have themselves been divided into three groups. The first group, representing response scores of one and two, indicates teachers who perceive their job to be either non- or mildly stressful. The second group, which comprises responses of three, represents teachers who consider their occupation to be moderately stressful. The third group, which combines the responses of four and five, includes teachers who believe that their job is either very or extremely stressful.

The data revealed in Table 6.6 indicates that almost thirty-two per cent of the teachers who participated in the present study rated teaching as being either very or extremely stressful. At the other extreme, slightly under twenty per cent perceived teaching to cause them little or no stress. Thus, about eighty per cent of the teachers who comprised the sample in the present study perceived teaching to be at least moderately stressful.

Table 6.b
Frequency of Responses to the Single-Item Question Categorised by Socio-Biographical Characteristics

Socio-Biographical Characteristics		Frequency of Responses with Percentage Figures in Parenthesis				
		1 and 2	3	4 and 5	x^2	p
Sex	Male	14 (5.30)	23 (8.71)	21 (7.95)	2.389	0.303
	Female	38 (14.39)	105 (39.77)	63 (23.86)		
Age	20-30	7 (2.65)	27 (10.23)	27 (10.23)	7.886	0.096
	31-45	31 (11.74)	77 (29.17)	41 (15.53)		
	Over 45	14 (5.30)	24 (9.09)	16 (6.06)		
Length of Teaching Experience	0-10	17 (6.44)	54 (20.45)	46 (17.42)	14.897	0.005
	11-20	20 (7.58)	57 (21.59)	20 (7.58)		
	over 20	15 (5.68)	17 (6.44)	18 (6.82)		
Year Level Taught	K-3	24 (9.09)	55 (20.83)	42 (15.91)	1.013	0.603
	4-7	28 (10.61)	73 (27.65)	42 (15.91)		
Level of Qualification	3 year	35 (13.26)	82 (31.06)	51 (19.32)	0.623	0.732
	4 year or more	17 (6.44)	46 (17.42)	33 (12.50)		
Type of Employment	Full-time	43 (16.29)	107 (40.53)	75 (28.41)	1.636	0.441
	Part-time	9 (3.41)	21 (7.95)	9 (3.41)		
Category of Employment	Permanent	42 (15.91)	103 (39.02)	78 (29.55)	6.609	0.037
	Temporary	10 (3.79)	25 (9.47)	6 (2.27)		

The figure of thirty-two per cent who reported teaching to be either very or extremely stressful is similar to the results obtained in previous Australasian research which used a single-item question as a measure of occupational stress (Laughlin, 1984; Otto, 1985b; Chiu et al., 1986; Manthei and Solman, 1988) outlined in Table 3.3 in Chapter III. Comparison with research conducted in other countries which used the same questioning method (Tables 3.1 and 3.2 in Chapter III) shows that the figure obtained from the present study is within the range ascertained by such research.

The results of a chi-square analysis yielded two significant differences in the number of responses to the single-item question when categorised by the teachers' socio-biographical characteristics. These differences were discovered for length of teaching experience ($p=0.005$) and category of employment ($p=0.037$). In relation to length of teaching experience, significantly more teachers who had been teaching for less than ten years perceived their jobs as being either very or extremely stressful when compared with their more experienced colleagues. In addition, significantly more teachers who had taught for twenty years or less reported teaching to be a moderately stressful occupation by comparison with those who had been teaching for more than twenty years.

For category of employment, significantly more permanent teachers rated their occupation as being either very or extremely stressful. On the other hand, more temporary teachers perceived their occupation to be moderately stressful.

Table 6.7
Frequency of Responses to the Felt Effects Scale Categorised by Socio-Biographical Characteristics

Socio-Biographical Characteristics		Frequency of Responses with Percentage Figures in Parenthesis				
		0-5	6-12	over 12	x^2	p
Sex	Male	33 (12.50)	22 (8.33)	3 (1.14)	1.252	0.535
	Female	102 (38.64)	87 (32.95)	17 (6.44)		
Age	20-30	34 (12.88)	23 (1.52)	4 (1.52)	1.913	0.752
	31-45	74 (28.03)	65 (24.62)	10 (3.79)		
	Over 45	27 (10.23)	21 (7.95)	6 (2.27)		
Length of Teaching Experience	0-10	57 (21.59)	50 (18.94)	10 (3.79)	5.557	0.235
	11-20	49 (18.56)	44 (16.67)	4 (1.52)		
	over20	29 (10.98)	15 (5.68)	6 (2.27)		
Year Level Taught	K-3	55 (20.83)	55 (20.83)	11 (4.17)	3.026	0.220
	4-7	80 (30.30)	54 (20.45)	9 (3.41)		
Level of Qualification	3 year	85 (32.20)	73 (27.65)	10 (3.79)	2.158	0.340
	4 year or more	50 (18.94)	36 (13.64)	10 (3.79)		
Type of Employment	Full-time	116 (43.94)	91 (34.47)	18 (6.82)	0.677	0.713
	Part-time	19 (7.20)	18 (6.82)	2 (0.76)		
Category of Employment	Permanent	116 (43.94)	90 (34.09)	17 (6.44)	0.523	0.770
	Temporary	19 (7.20)	19 (7.20)	3 (1.14)		

Table 6.7 summarises the frequency of responses to the Felt Effects Scale, categorised by socio-biographical characteristics of the teachers. The figures displayed in Table 6.7 reveal that the responses of almost forty-nine per cent of the teachers surveyed were in the serious or very serious categories. The only measure of teacher stress prevalence in Western Australian research with which this result can be compared is that conducted by Van Schoubroeck and Tuetteman (1986). They used the General Health Questionnaire (Goldberg, 1972) and found that eighteen per cent of primary teachers had symptoms of severe psychological distress. Analysed further, about seven and one-half per cent of recorded responses to the Felt Effects Scale suggested that teachers were suffering from very serious stress levels at the time of the present survey. These results make an interesting comparison with those obtained from the one-item question which showed that almost thirty-two per cent rated teaching as being either very or extremely stressful. Of this total, slightly over eight per cent rated teaching as being extremely stressful. Such a figure may suggest that a score of over twelve on the Felt Effects Scale (Baldock, 1984) corresponds to a score of five on the one-item question. However, further investigation would be required to ascertain such an association.

This postulation aside, there would appear to be some discrepancy when comparing the stress prevalence figures obtained by the two measurement techniques. If the proportion of teachers who perceived their occupation to be either very or extremely stressful (about thirty-two per cent) is compared to the proportion whose scores on the Felt Effects Scale (Baldock, 1984) indicate that they were suffering at least serious levels of stress (about forty-nine per cent), a relatively large difference is revealed. A similar discrepancy was reported by Galloway et al. (1984a)

and Pankhurst (1982) who asked teachers to respond to a single-item question, as used in the present study, and the General Health Questionnaire (Goldberg, 1972). They found that forty-four per cent of teachers in their sample had a General Health Questionnaire score of more than six, which indicated a need for medical or psychiatric treatment. However, in the same study only twelve and one-half per cent reported their occupation to be either very or extremely stressful. The difference in these results was explained by Galloway et al. (1984a) by reference to discussions with teachers who participated in the study. These discussions revealed that teachers seemed to think that admitting to feelings of stress is regarded as an admission of failure. In addition, at the time of their research, recently-qualified teachers faced uncertainty in their employment, and there was intense competition among experienced teachers for senior positions. Therefore, such teachers were reluctant to admit to anything which may be construed as reflecting incompetence. Consequently, scores on the single-item question may reveal a conservative measure of the number of teachers who are experiencing occupational stress.

In the case of the present study, these issues did not emerge strongly from the interviews, although two temporary teachers did discuss job insecurity. However, the relatively small number of temporary teachers who participated in the present study (forty-one) would be unlikely to influence the difference in the figures obtained by the two methods of measurement. The difference could be attributed to issues other than those discussed in the interviews with teachers.

In relation to differences in responses to the Felt Effects Scale (Baldock, 1984), when categorised by socio-biographical characteristics, a chi-square test did not reveal any significant differences.

Summary

The prevalence of stress among the teachers who participated in the present study was determined by two methods. First, responses to the single-item question indicated that almost thirty-two per cent of teachers rated their occupation as either very or extremely stressful. Second, scores obtained from the Felt Effects Scale (Baldock, 1984) revealed that nearly forty-nine per cent of teachers were suffering from either serious or very serious levels of stress.

Chi-square analysis yielded two significant differences in the number of responses to the single-item question when categorised by the socio-biographical characteristics of the teachers who participated in the study. These differences were found in relation to length of teaching experience and category of employment. The only other study discovered in the literature which also used chi-square as a method of analysis was that reported by Finlay-Jones (1986), Van Schoubroeck and Tuetteman (1986) and Louden (1987). This analysis was undertaken for the sex, age and level of qualification (of relevance to the present study) of the respondents and discerned no significant differences.

Perceived Sources of Stress

Table 6.8 reveals the means and standard deviations of the responses to the potentially stressful items listed in section four of the questionnaire.

The participants in the present study were asked to rate, on a five-point Likert scale, the degree to which each of these items caused them stress. A score of one indicated "no stress", while a score of five represented "extreme stress".

An analysis of the data contained in Table 6.8 shows that twenty-one items (32.3% of the total) had a mean response above three; forty-one items (63%) received a mean response of between two and three; and three items (4.7%) had a mean response of less than two. The mean scores ranged from 1.88 (feeling professionally isolated from the staff) to 3.67 (having to deal with disruptive students), while the standard deviations ranged from 0.98 (spending time on duties other than teaching) to 1.67 (inadequate communication between the Ministry of Education and classroom teachers). The items which were characterised by a mean score above three can be considered to be causing greater than moderate stress, while those with a mean score of less than two can be regarded as the least stressful. The five most stressful, together with the three least stressful, sources of stress are presented in Tables 6.9 and 6.10.

Table 6.8
Means and Standard Deviations of Stress Sources

Source of Stress	Mean	Standard Deviation
4.1. Spending time on duties other than teaching.	2.90	0.98
4.2. Having to teach classes containing more than one year level.	3.08	1.18
4.3. Being confronted with frequent changes to the curriculum.	3.31	1.02
4.4. Too many interruptions to the teaching program due to the four-term year.	2.02	1.13
4.5. Unrealistic community expectations of teachers.	3.25	1.13
4.6. Having to deal with the welfare needs of parents.	3.03	1.23
4.7. Lack of support from the principal.	2.23	1.31
4.8. Participating in inappropriate industrial action.	3.05	1.32
4.9. Being expected to fulfil a number of expectations from a variety of sources.	3.49	1.06
4.10. Failure of the Ministry of Education to provide adequate resources.	3.50	1.12
4.11. Principal displaying favouritism towards some staff members.	1.98	1.25
4.12. Changes initiated by the Ministry of are expected to be implemented too quickly.	3.17	1.17
4.13. Not having enough time during the school-day for marking and preparation.	3.34	1.11
4.14. Having to deal with disruptive students.	3.67	1.08
4.15. Feeling socially isolated from the staff.	1.99	1.13
4.16. Inadequate school-level discipline policy.	2.38	1.25
4.17. Teaching a class which has a wide range of of learning abilities among students.	3.22	1.13
4.18. Intrusion of school-related work on private time.	3.25	1.09

Table 6.8. (continued)

Source of Stress	Mean	Standard Deviation
4.19. Having to teach classes in which there are too many children.	3.30	1.20
4.20. The lack of relevance of the curriculum for the children I teach.	2.17	1.02
4.21. Starting school at the beginning of the not feeling refreshed.	2.14	1.24
4.22. Lack of appreciation of teachers by the general community.	3.15	1.18
4.23. Having to deal with the welfare needs of some students.	2.99	1.08
4.24. Inadequate communication system within the school.	2.38	1.10
4.25. Poor Union-Ministry relations.	2.58	1.16
4.26. Being expected to fulfil a number of conflicting roles.	3.26	1.09
4.27. Having students in the class who are continually disobedient.	3.38	1.22
4.28. Inept leadership by the Ministry of Education.	2.98	1.19
4.29. Student-free days are inappropriately used.	2.26	1.14
4.30. Teaching students whose attendance at school is inconsistent.	2.20	1.07
4.31. Feeling professionally isolated from the staff.	1.88	1.03
4.32. Pressure on time due to increasing workloads.	3.53	1.00
4.33. Teaching students who have unrealistic expectations of themselves.	2.12	0.99
4.34. Inadequate communication between the Ministry of Education and classroom teachers.	2.87	1.67
4.35. Failure of the principal to provide adequate resources.	2.04	1.14

Table 6.8. (continued)

Source of Stress	Mean	Standard Deviation
4.36. Having to teach subjects of which I have little knowledge.	2.14	1.12
4.37. The repetitive nature of having to prepare teaching programs.	2.64	1.25
4.38. The hot weather at the beginning of the year.	3.27	1.41
4.39. Having to undertake duties other than teaching.	2.78	1.12
4.40. Lack of support from the Union.	2.36	1.22
4.41. Having little influence over political decisions in relation to education.	3.22	1.21
4.42. Lack of assistance with the effective management of time.	2.16	1.06
4.43. Teaching students who are not interested in their schoolwork.	2.90	1.12
4.44. Having some teachers in the school who are perceived not to do their share of the workload.	2.90	1.12
4.45. Pressure on time due to increasing expectations.	3.36	1.00
4.46. Lack of professional development activities which do not interfere with private time.	2.83	1.19
4.47. Dealing with students who physically attack each other.	2.89	1.42
4.48. Lack of a definitive school policy on pastoral care.	2.02	1.08
4.49. Lack of participation in decision-making at the school-level.	2.03	1.06
4.50. The threat of industrial action.	2.55	1.29
4.51. Lack of useful in-service courses.	2.66	1.24
4.52. Teaching students whose level of achievement is less than expected.	2.77	1.04
4.53. Lack of co-operation between staff.	2.30	1.21

Table 6.8. (continued)

Source of Stress	Mean	Standard Deviation
4.54. Pressure on time due to preparation for individual students.	2.91	1.11
4.55. Lack of recognition of good teaching by the Ministry of Education.	2.90	1.20
4.56. Being unsatisfied with my job.	2.25	1.15
4.57. Working in a poorly managed school.	2.19	1.34
4.58. Lack of support from parents in the education of their child.	2.77	1.15
4.59. Political interference in education.	2.98	1.27
4.60. Pressure on time due to having to meet deadlines.	3.10	1.10
4.61. Lack of co-operation from welfare agencies.	2.22	1.17
4.62. Obtaining permanency.	2.29	1.65
4.63. Difficulty in obtaining transfer from an unhappy school situation.	2.14	1.48
4.64. Too many interruptions to the teaching due to extra-curricular activities.	2.81	1.14
4.65. Lack of practical support from the school psychologist.	2.41	1.28

Table 6.9
Most Important Sources of Stress

Source of Stress	Mean	Standard Deviation
Having to deal with disruptive students.	3.67	1.08
Pressure on time due to increasing workloads.	3.53	1.00
Failure of the Ministry of Education to provide adequate resources.	3.50	1.12
Being expected to fulfil a number of different expectations from a variety of sources.	3.49	1.06
Having students in the class who are continually disobedient.	3.38	1.22

Table 6.10
Least Important Sources of Stress

Source of Stress	Mean	Standard Deviation
Feeling professionally isolated from the staff.	1.88	1.03
Principal displaying favouritism towards some members of staff.	1.98	1.25
Feeling socially isolated from the staff.	1.99	1.13

Factor Analysis of Items Relating to Stress in Teaching

Eight stress factors were extracted by principal component analysis and varimax rotation. Table 6.11 presents information on the identification of each stress factor, the contribution to the total variance by each factor and the cumulative variance. In addition, Table 6.11 also includes coefficients of reliability for each factor. The items having significant loadings on each factor in excess of 0.4, together with their factor loadings, are revealed in Table 6.12.

Table 6.11
Stress Factors

Factor number and name	Variance	Cumulative Variance	Cronbach's Alpha
1. School-level concerns	7.442145	7.442145	0.91
2. Issues external to the school	6.254615	13.696760	0.90
3. Time	5.798597	19.495357	0.88
4. Student-related	5.766254	25.261611	0.89
5. Interference with classroom activities	2.985211	28.246822	0.75
6. Role expectations	2.809775	31.056597	0.84
7. Industrial action	2.288841	33.345438	0.61
8. Employment conditions	2.047413	35.392850	0.61

Together, the eight stress factors identified in Table 6.11 account for over thirty-five per cent of the variance. With two exceptions, the reliability coefficients of each factor, which range from 0.61 to 0.91, all show a high degree of internal consistency. The two exceptions, "industrial action"

and "employment conditions" contain, respectively, only two and three items. Four of the factors, namely, "school-level concerns", "issues external to the school", "time" and "student-related", represent over twenty-five per cent of the variance. These factors will be used within a causal model of teacher stress developed in the next chapter.

Despite some differences in nomenclature and relative importance, the stress factors identified in Table 6.11 have been identified in previous research (refer to Tables 3.7-3.12 in Chapter III). The one stress factor which does not appear to have been isolated in previous research was "industrial action". One explanation for the appearance of this factor in the current research is that Government school teachers in Western Australia were engaged in industrial action in the last few years of the 1980's. Possibly, had there been a reasonably lengthy period of industrial peace immediately prior to the present study, this factor may not have been as prominent.

Each of the identified stress factors can be categorised into a variety of themes or sub-groupings. Three such themes, the role of the principal, staff-related items and dislike of the school can be observed in the factor relating to "school-level concerns". The factor labelled as "issues external to the school" contains three sub-groupings. These sub-groupings are influences which can be attributed to the Ministry of Education, a lack of appreciation or support from groups outside the immediate school and politics and education.

Table 6.12
Stress Factor Items and Loadings

Stress Factor	Loading	Items
1. School-level concerns		
	.711	53. Lack of co-operation between the staff.
	.702	57. Working in a poorly managed school.
	.701	7. Lack of support from the principal.
	.677	24. Inadequate communication system within the school.
	.675	11. Principal displaying favouritism towards some staff members.
	.675	35. Failure of the principal to provide adequate resources.
	.667	49. Lack of participation in decision-making at the school-level.
	.629	16. Inadequate school-level discipline policy.
	.628	31. Feeling professionally isolated from the staff.
	.606	15. Feeling socially isolated from the staff.
	.506	29. Student-free days are inappropriately used.
	.501*	63. Difficulty in obtaining transfer from unhappy school situation.
	.481	44. Having some teachers in the school who are perceived not to do their share of the workload.
	.445*	48. Lack of definitive school policy on pastoral care.
	.427	56. Being unsatisfied with my job.
2. Issues external to the school		
	.799	34. Inadequate communication between the Ministry of Education and classroom teachers.
	.779	28. Inept leadership by the Ministry of Education.
	.710	25. Poor Union-Ministry relations.
	.696	41. Having little influence over political decisions in relation to education.
	.657	40. Lack of support from the Union.
	.559	59. Political interference in education.
	.544	55. Lack of recognition of good teaching by the Ministry of Education.
	.530	22. Lack of appreciation of teachers by the general community.
	.485	10. Failure of the Ministry of Education to provide adequate resources.
	.439	12. Changes initiated by the Ministry of Education are expected to be implemented too quickly.
	.411*	46. Lack of professional development activities which do not interfere with private time.

Table 6.12 (continued)

Stress Factor	Loading	Items
3. Time		
	.717	32. Pressure on time due to increasing workloads.
	.685	13. Not having enough time during the school-day for marking and preparation.
	.671	18. Intrusion of school-related work on private time.
	.659	45. Pressure on time due to increasing expectations.
	.570	1. Spending time on duties other than teaching.
	.525	37. The repetitive nature of having to prepare teaching programs.
	.512	39. Having to undertake duties other than teaching.
	.506*	60. Pressure on time due to having to meet deadlines.
	.460	26. Being expected to fulfil a number of conflicting roles.
	.428*	46. Lack of professional development activities which do not interfere with private time.
4. Student-related		
	.690	27. Having students in the class who are continually disobedient.
	.679	43. Teaching students who are not interested in their schoolwork.
	.648	33. Teaching students who have unrealistic expectations of themselves.
	.597	52. Teaching students whose level of achievement is less than expected.
	.593	14. Having to deal with disruptive students.
	.579	17. Teaching a class which has a wide range of learning abilities among the students.
	.564	30. Teaching students whose attendance at school is inconsistent.
	.516	47. Dealing with students who physically attack each other.
	.477	54. Pressure on time due to preparation for individual students.
	.466	58. Lack of support from parents in the education of their child.
	.418*	48. Lack of a definitive school policy on pastoral care.
	.409	9. Being expected to fulfil a number of different expectations from a variety of sources.

Table 6.12 (continued)

Stress Factor	Loading	Items
5. Interference with classroom activities		
	.521	65. Lack of practical support from the school psychologist.
	.500	61. Lack of co-operation from welfare agencies.
	.500	64. Too many interruptions to the teaching program due to extra-curricular activities.
	.446	38. The hot weather at the beginning of the year.
	.433	4. Too many interruptions to the teaching program due to the four-term year.
	.422*	60. Pressure on time due to having to meet deadlines.
6. Role expectations		
	.656	6. Having to deal with the welfare needs of parents.
	.542*	23. Having to deal with the welfare needs of some students.
	.508	9. Being expected to fulfil a number of different expectations from a variety of sources.
	.493	5. Unrealistic community expectations of teachers.
7. Industrial action		
	.689	50. The threat of industrial action.
	.660	8. Participating in inappropriate industrial action.
8. Employment conditions		
	.613	62. Obtaining permanency.
	.536*	63. Difficulty in obtaining transfer from unhappy school situation.
	.520	2. Having to teach classes containing more than one year level.

Items marked * loaded on two factors.

The third stress factor, "time", appears to have two broad themes. These include pressures concerned with tasks other than teaching, and those relating to teaching duties. "Student-related" items (the fourth factor) involve those which were either directly or indirectly related to students. The fifth stress factor, "interference with classroom activities", contains two discernible themes. These are interruptions to the teaching program and lack of support or co-operation from the school psychologist or welfare agencies.

The items comprising the stress factor "role expectations" can be categorised into two sub-groups which include expectations originating from outside the school and involvement with the welfare concerns of parents and students. The final two stress factors, "industrial action" and "employment conditions", contain no discernible sub-themes.

Differences in the Responses to Perceptions of Stress and Stress Factors Categorised by Socio-Biographical Characteristics

Data obtained from the questionnaire included information on specific socio-biographical characteristics of the teachers who completed the questionnaire. Such information included sex, year level taught, level of qualification, type of employment, category of employment, age group and length of teaching experience. To determine if any significant differences existed in the perceptions of stress levels (as determined by responses to the single-item question and the Felt Effects Scale) and the stress factors, a one-way analysis of variance was undertaken for each of the latter two characteristics. The initial five socio-biographical characteristics were subjected to t-tests to determine the existence of any significant differences in responses.

Sex

The results of the t-test analysis to detect any significant differences in the ratings of stress levels and the stress factors are shown in Table 6.13. The information in this table indicates that although no significant differences existed in the perceptions of stress levels as measured by both the single-item question and the Felt Effects Scale, significant differences were discerned in relation to four of the stressors. These differences included that female teachers found "time", "interference with classroom activities", "industrial action" and "employment conditions" to be more stressful than their male counterparts.

Table 6.13
Differences in the Ratings of Stress and Stressors Categorised by Sex

Factor Number and/or Name	Male (58) x	sd	Female (206) x	sd	t	prob.
Stress	3.17	0.86	3.15	0.79	0.1839	ns
Felt Effects	5.07	4.07	6.17	4.07	-1.8296	ns
1.School-level	31.14	11.75	32.93	11.80	-1.0207	ns
2.External to school	31.91	9.96	32.70	9.07	-0.5699	ns
3.Time	29.24	7.96	31.50	7.45	-2.0092	s <.05
4.Student-related	32.55	8.60	34.83	9.07	-1.7119	ns
5.Interference with classroom activities	16.97	4.78	19.30	5.45	-2.9909	s <.01
6.Role expectations	12.14	4.17	12.95	3.53	-1.4781	ns
7.Industrial action	4.88	2.15	5.80	2.36	-2.6775	s <.01
8.Employment conditions	6.52	3.10	7.80	3.26	-2.6569	s <.01

The lack of any significant difference in the ratings of stress levels found in the present study, when categorised by sex, is similar to the general trend reported in previous research. In relation to the significant differences found for four of the factors, the finding that female teachers were more stressed by "time" has been discussed previously by O'Connor

and Clarke (1990) and Smith and Bourke (1990). The other significant differences found in the present study have not been reported in previous research.

Year Level Taught

As revealed in Table 6.14, three significant differences emerged between the two categories of year level taught (years K-3 and 4-7), in relation to the ratings of stress levels and stress factors. Among the identified stress factors, teachers of years K-3 (i.e. pre-school to year 3) found "interference with classroom activities" and "employment conditions" to be more stressful than teachers of other year groups. Furthermore, while the teachers of the K-3 year levels scored significantly higher on the Felt Effects Scale, there was no significant difference in the responses of the two groups to the rating categories in the single-item question on occupational stress level. The reasons for this occurrence is an area in which further research could be pursued.

Previous research into the difference in responses to perceptions of stress and stress factors, as reported in the literature review, concentrated on differences between elementary/primary teachers and secondary teachers. The absence of research which examined response differences within primary teachers according to year level taught makes the findings of the present study quite unique.

Table 6.14
Differences in the Ratings of Stress and Stressors Categorised by Year Level Taught

Factor Number and/or Name	K-3 (121) x	sd	4-7(143) x	sd	t	prob.
Stress	3.16	0.77	3.15	0.82	0.0321	ns
Felt Effects	6.50	4.10	5.45	4.02	2.1081	s <.05
1.School-level	33.02	11.12	32.13	12.42	0.6146	ns
2.External to school	33.11	8.73	32.03	9.69	0.9377	ns
3.Time	31.64	7.21	30.46	7.91	1.2607	ns
4.Student-related	35.31	8.52	33.51	9.35	1.6189	ns
5.Interference with classroom activities	19.69	5.38	18.06	5.30	2.4623	s <.05
6.Role expectations	13.25	3.35	12.36	3.92	1.9510	ns
7.Industrial action	5.79	2.28	5.44	2.39	1.1917	ns
8.Employment conditions	7.98	3.41	7.11	3.09	2.1799	s <.05

Level of Qualification

Table 6.15 shows that no significant differences were discovered in the perceptions of stress levels and stress factors when examined according to level of qualification. In relation to level of qualification and stress, the findings of the present study are similar to those of Kyriacou and Sutcliffe (1977a, 1978b, 1979a) and Laughlin (1984). However, the lack of significant differences in the ratings of the stressors according to level of qualification provide a contrast to the findings of previous research in relation to "student-related" items (O'Connor and Clarke, 1990) and "time" (Manthei and Solman, 1988).

Table 6.15
Differences in the Ratings of Stress and Stressors Categorised by Level of Qualification

Factor Number and/or Name	3 year (168) x	sd	More than 3 year (96) x	sd	t	prob.
Stress	3.11	0.78	3.24	0.83	-1.2944	ns
Felt Effects	5.88	3.95	6.02	4.33	-0.2672	ns
1.School-level	32.00	11.09	33.47	13.03	-0.9666	ns
2.External to school	31.96	9.07	33.52	9.54	-1.3212	ns
3.Time	30.57	7.82	31.77	7.18	-1.2399	ns
4.Student-related	34.25	8.75	34.48	9.49	-0.1985	ns
5.Interference with classroom activities	18.50	5.25	19.34	5.60	-1.2253	ns
6.Role expectations	12.57	3.53	13.11	3.94	-1.1516	ns
7.Industrial action	5.62	2.27	5.56	2.47	0.1833	ns
8.Employment conditions	7.65	3.24	7.26	3.31	0.9444	ns

Type of Employment

In regard to the responses to the ratings of stress levels and stress factors, Table 6.16 shows the existence of only one significant difference, namely, full-time teachers were more stressed by "issues external to the school" than their part-time colleagues. Such a finding was not noted in any previous research.

The findings of the present study contrast with the results of the, albeit small volume of, previous research which examined this particular socio-biographical characteristic. These results included that full-time teachers had higher stress levels (Chiu et. al, 1986); part-time teachers experienced more stress from change and less stress from work overload Mykletun (1984); and full-time teachers were more stressed by resource overload (Smith and Bourke, 1990).

Table 6.16
Differences in the Ratings of Stress and Stressors Categorised by Type of Employment

Factor Number and/or Name	Full-time (225) x	sd	Part-time (39) x	sd	t	prob.
Stress	3.18	0.80	3.00	0.79	1.3138	ns
Felt Effects	5.93	4.09	5.92	4.09	0.0145	ns
1.School-level	32.44	11.46	33.07	13.92	-0.3078	ns
2.External to school	33.01	9.03	29.72	10.17	2.0651	s <.05
3.Time	31 36	7.57	28.97	7.57	1.8128	ns
4.Student-related	34.32	8.76	34.41	10.46	-0.0577	ns
5.Interference with classroom activities	19.07	5.27	17.31	5.89	1.8916	ns
6.Role expectations	12.88	3.83	12.13	4.02	1.1758	ns
7.Industrial action	5.54	2.38	5.92	2.11	-0.9370	ns
8.Employment conditions	7.48	3.27	7.72	3.24	-0.4276	ns

Category of Employment

The information contained in Table 6.17 indicates that four significant differences were discovered in the responses to the items on stress and stressors when analysed by category of employment. Permanent teachers experienced more occupational stress, as measured by the single-item question, than those in temporary positions. This is in direct contrast to the findings of Panckhurst's (1982) research, the only study discovered in the literature which reported a significant finding on this issue.

The present study also found that permanent teachers were more stressed by "issues external to the school" and "time". The latter finding was reported by O'Connor and Clarke (1990). In addition, the present investigation revealed that temporary teachers were more stressed by "employment conditions" than their permanent colleagues. Such a finding

can probably be explained by the process which temporary teachers must complete to acquire permanent status.

Table 6.17
Differences in the Ratings of Stress and Stressors Categorised by Category of Employment

Factor Number and/or Name	Permanent(223) x	sd	Temporary (41) x	sd	t	prob.
Stress	3.21	0.81	2.88	0.68	2.4348	s <.05
Felt Effects	5.91	4.09	6.02	4.06	-0.1576	ns
1.School-level	33.41	11.90	29.27	11.00	1.9362	ns
2.External to school	33.26	9.03	28.51	9.54	3.0693	s <.01
3.Time	31.45	7.66	28.59	6.86	2.2319	s <.05
4.Student-related	34.53	8.97	33.24	9.22	0.8424	ns
5.Interference with classroom activities	19.03	5.27	17.61	5.93	1.5522	ns
6.Role expectations	12.91	3.73	12.02	3.39	1.4088	ns
7.Industrial action	5.54	2.34	5.93	2.36	-0.9764	ns
8.Employment conditions	7.25	3.30	8.93	2.69	-3.0704	s <.01

Age

Table 6.18 summarises the results of the analysis of variance undertaken to determine the existence of any significant differences in the responses of the teachers when categorised by age. Two such differences emerged, with the relevant factors being "school-level concerns" (p=0.0026) and "employment conditions" (p=0.0033).

In relation to "school-level concerns", teachers aged over forty-five were less stressed by this factor than those who were less than this age. Such a finding is similar to that of Mykletun (1984) who discovered that younger teachers in Norwegian comprehensive schools were more stressed by lack of teaching aids and lack of professional support (both of which are

items within the school-level concerns factor). However, other similar findings were not to be discerned in the literature.

Table 6.18
Differences in the Ratings of Stress and Stressors Categorised by Age

Factor Number and/ or Name	Mean Response of Each Age Group 20-30 (61)	31-45 (149)	over 45 (54)	F	p
Stress	3.344	3.101	3.093	2.23	ns
Felt Effects	6.082	5.899	5.852	0.06	ns
1. School-level	35.525	32.933	28.094	6.10	s <.01
2. External to school	32.410	32.074	33.907	0.78	ns
3. Time	32.295	30.705	30.370	1.18	ns
4. Student-related	35.525	34.732	31.689	2.70	ns
5. Interference with classroom activities	18.689	18.477	19.852	1.31	ns
6. Role expectations	13.459	12.638	12.352	1.51	ns
7. Industrial action	5.164	5.819	5.481	1.79	ns
8. Employment conditions	8.410	7.557	6.370	5.84	s <.01

The second significant difference revealed that teachers aged over forty-five were less stressed by "employment conditions" than their younger colleagues. This finding has not been discussed in the research examined in the literature review, and would appear to be peculiar to the teachers who participated in the present study.

Length of Teaching Experience

Three significant differences emerged from the analysis of variance undertaken for length of teaching experience. These included "issues external to the school" (p=0.0079), "interference with classroom activities" (p=0.0461) and "employment conditions" (p=0.0091).

Table 6.19 shows that the more experienced teachers, those who had been teaching for more than thirty years, encountered greater stress from "issues external to the school" than their colleagues who had been teaching for a lesser period of time. Manthei and Solman (1988) and Mykletun (1984) discussed a similar finding when they reported that experienced teachers were more stressed by the impact of change (an item in the "issues external to school" factor).

Table 6.19
Differences in the Ratings of Stress and Stressors Categorised by Length of Teaching Experience

Factor Number and/ or Name	Mean Response of Each Length of Teaching Experience Group				
	0-10 (117)	11-21 (97)	over 21 (50)	F	p
Stress	3.274	3.031	3.120	2.52	ns
Felt Effects	6.222	5.732	5.640	0.54	ns
1. School-level	34.470	30.649	31.680	2.97	ns
2. External to school	32.325	31.000	35.960	4.93	s <.01
3. Time	31.256	30.660	31.080	0.17	ns
4. Student-related	35.744	33.010	33.600	2.68	ns
5. Interference with classroom activities	18.752	18.062	20.380	3.11	s <.05
6. Role expectations	13.179	12.268	12.780	1.63	ns
7. Industrial action	5.436	5.536	6.100	1.47	ns
8. Employment conditions	8.197	7.000	6.900	4.78	s <.01

"Interference with classroom activities" caused more stress to the longer-serving teachers than those who had been teaching between eleven and twenty years. Other comparison combinations yielded no significant differences in response ratings for this factor. "Employment conditions" caused more stress for teachers with less than ten years' experience, by comparison with their more experienced colleagues. These particular findings were not discussed in the research examined in the literature

review. Consequently, they would appear to be unique to the teachers who participated in the present study.

The Relationship Between Occupational Stress, Satisfaction and Attitude Towards Teaching

In addition to determining the relationship between occupational stress and satisfaction, a co-incidental outcome of the present study was the opportunity to analyse the relationships between attitude towards teaching, occupational stress and satisfaction. To determine the existence of any relationships between the items used to measure satisfaction, stress and attitude towards teaching, Pearson product-moment coefficients were calculated. The results of these calculations are show in Table 6.20.

Table 6.20
Correlation Coefficients of Measures of Occupational Stress,Satisfaction and Attitude Towards Teaching

	Single-Item Satisfaction	Single-Item Stress	Aspects of Job Satisfaction	Felt Effects Scale	Semantic Differential
Single-Item Satisfaction	1.0				
Single-Item Stress	0.39923	1.0			
Aspects of Job Satisfaction	0.58986	0.34980	1.0		
Felt Effects Scale	0.40518	0.56947	0.44184	1.0	
Semantic Differential	0.57065	0.40775	0.70130	0.51476	1.0

Occupational Stress and Attitude Towards Teaching

The correlation coefficients between the Semantic Differential Scale and the single-item question (r=0.41), and the Felt Effects Scale (r=0.51) indicated that teachers in the present study who perceived their job to be stressful tended to have a negative attitude towards their occupation. Such a finding has not been reported in previous Western Australian research. The respective coefficients of determination are rather low (r^2=0.166 and r^2=0.265) and suggest that further investigation into the relationship between occupational stress and attitude towards teaching in Western Australia may be worthwhile.

Occupational Satisfaction and Attitude Towards Teaching

Two correlation coefficients indicated the relationship between occupational stress and attitude towards teaching for the teachers who participated in the present study. These coefficients, between the Semantic Differential Scale and the single-item question (r=0.57) and the Aspects of Job Satisfaction Scale (r=0.70), suggest that teachers who are satisfied with their job also have a positive attitude towards teaching. As such a finding has not been reported in previous Western Australian research a promising area for future research in this geographical location may have been revealed by the present study.

Occupational Stress and Satisfaction

Four correlation coefficients, as shown in Table 6.20 can be used to discuss the relationship between occupational satisfaction and stress. These coefficients included those between the single-item questions on

satisfaction and stress (r=0.40); the single-item question on satisfaction and the Felt Effects Scale (r=0.41); the single-item question on stress and the Aspects of Job Satisfaction Scale (r=0.35); and the Felt Effects Scale and the Aspects of Job Satisfaction Scale (r=0.44).

Although the coefficients of correlation are positive, they are not strong. Therefore, these results indicate a weak relationship between occupational stress and job satisfaction. Those teachers who participated in the present study who reported their job to be stressful tended to be dissatisfied with teaching. Previous Australasian research (Galloway et al., 1984b; Laughlin, 1984; Otto, 1982, 1986a) reported a similar pattern. However, the results of the present study differ from those obtained by Mykletun (1984) and Smilansky (1984).

Summary

The aim of this chapter was to demonstrate how the collected data contributed to the completion of the stated objectives of the present study. The first section outlined the socio-biographical characteristics of the teachers who completed the questionnaire and reviewed the reasons for the relatively low effective return rate.

Section two discussed the research instrument developed to obtain information on teacher stress. The discussion included an examination of the results of statistical analyses applied to the components of the instrument. These results indicated that the multi-item scales used to measure occupational stress, occupational satisfaction and attitude towards teaching were reliable measures of these phenomena. In

addition, support was found for the use of single-item questions to determine the extent of occupational stress and satisfaction.

Prevalence of stress among the study sample was ascertained by analysing responses to the single-item question on stress and the Felt Effects Scale. In relation to the former, almost thirty-two per cent of teachers in the present study rated teaching to be either very or extremely stressful. Overall, slightly more than eighty per cent of the study sample rated teaching to be at least moderately stressful. Analysis of responses to the latter indicated that almost forty-nine per cent of the respondents could be classified as suffering from either serious or very serious stress levels. The apparent difference in the figures obtained from the two measures was also discussed.

The results of a chi-square analysis used to determine the existence of any differences, when categorised by socio-biographical characteristics, in the number of responses to both the single-item question and the Felt Effects Scale yielded two findings of significance. Both of these differences, for length of teaching experience and category of employment, related to the single-item question.

The fourth section of this chapter examined the perceived sources of stress as reported by the teachers who participated in the present study. These sources were tabulated, together with their mean scores and standard deviations. Furthermore, the five most, and three least, important sources of stress were also summarised in table format.

A discussion of the factor analysis applied to the items relating to stress in teaching comprised the fifth section of this chapter. Eight stress factors,

namely "school-level concerns", "issues external to the school", "time", "student-related", "interference with classroom activities", "role expectations", "industrial action", and "employment conditions", were extracted by principal component analysis and varimax rotation. Various themes within each factor were also described.

Tests of significance were applied to determine the existence of any differences in the responses to perceptions of stress and the stress factors when categorised by socio-biographical characteristics. T-tests revealed that females found "time", "interference with classroom activities", "industrial action" and "employment conditions" to be more stressful than males; teachers of years K-3 were more stressed by "interference with classroom activities" and "employment conditions"; full-time teachers experienced greater stress from "issues external to the school"; permanent teachers were more stressed by "issues external to the school" and "time"; and temporary teachers experienced greater stress from "employment conditions". In addition to these findings, t-test analyses also revealed that teachers of the K-3 year levels scored significantly higher on the Felt Effects Scale, while permanent teachers experienced more occupational stress as measured by the single-item question.

Analyses of variance were performed to investigate the existence of any significant differences in perceptions of stress and the stress factors when categorised by age and length of teaching experience. In relation to age, teachers aged over forty-five were less stressed by "school-level concerns" and "employment conditions". Three significant differences emerged with regard to length of teaching experience. First, teachers who had taught for more than thirty years were more stressed by "issues

external to the school". Second, "interference with classroom activities" caused more stress to the longer serving teachers, by comparison with those who had been teaching for between eleven and twenty years. Third, "employment conditions" caused more stress for teachers of less than ten years' experience.

Section six of the chapter discussed the background to, and results of factorial analyses of the three multi-item scales used in the questionnaire. Two factors were extracted from the Semantic Differential Scale. These were labelled as the "impact of teaching on the individual" and "judgement of the worth or value of teaching". One factor was derived from the Felt Effects Scale, which confirmed the unidimensional nature of this instrument. Analysis of the "Aspects of Job Satisfaction" Scale revealed a very weak factor loading for one item. This item was removed from the scale and the resulting principal component analysis yielded one factor.

The final section of the chapter explored possible relationships between the items used to measure satisfaction, stress and attitude towards teaching. Correlational analyses were undertaken to determine the existence of any relationships. Essentially, the results of these analyses indicated that satisfied teachers had a positive attitude towards their job, teachers who considered their job to be stressful had a negative attitude towards their vocation, and teachers who perceived their jobs to be stressful were dissatisfied with their occupation.

While this chapter revealed the results of some statistical analyses of the quantitative data, Chapter VII will develop a causal model of teacher stress.

CHAPTER VII

CAUSAL MODEL OF TEACHER STRESS

Introduction

A causal model of teacher stress, derived from the data obtained by the research instrument, is developed in this chapter. In undertaking this task, the elements of the causal model of teacher stress will be described followed by the derivation of a structural equation model and an analysis of this model.

The Elements of the Causal Model of Teacher Stress

The initial causal model of teacher stress is presented in figure 7.1. The model contains eleven observed independent variables and two observed dependent variables. The observed independent variables include the socio-biographical characteristics of the teachers, together with the first four extracted stress factors. These factors, namely "school-level concerns", "issues external to the school", "time", and "student-related", accounted for over twenty-five per cent of the variance (refer to Table 6.7, p. 182). The observed dependent variables are "stress" and "satisfaction", as measured by the single-item questions in the research instrument (refer to Appendix Three). The causal model tested the influence of:

(i) the observed independent variables on "stress";
(ii) the observed independent variables on "satisfaction"; and
(iii) the observed dependent variable "satisfaction" and the observed

dependent variable "stress" on each other.

The Lisrel VII computer program, discussed in Chapter V, was selected as the most appropriate method for analysing the strength of the path coefficients between the independent and dependent variables, and recursive relationship between the dependent variable "satisfaction" and the dependent variable "stress". The initial causal model, as outlined in Figure 7.1, included estimations of all these possible path coefficients. Following Lisrel conventions, both the observed independent variables and the observed dependent variables appear in rectangular boxes.

The Structural Equation Model

Since the model does not incorporate latent variables, a special case of the general Lisrel model using only observed dependent and independent models was applied in the present study. The initial structural equation model for the observed independent variables X_1 to X_{11}, the relationships of these variables with the observed dependent variables Y_1 and Y_2, and the relationships between the two dependent variables can be defined as:

$$\mathbf{Y} = \mathbf{BY} + \Gamma\mathbf{X} = \zeta \quad \text{(1)}$$

which in this special case can be represented by the following matrix:

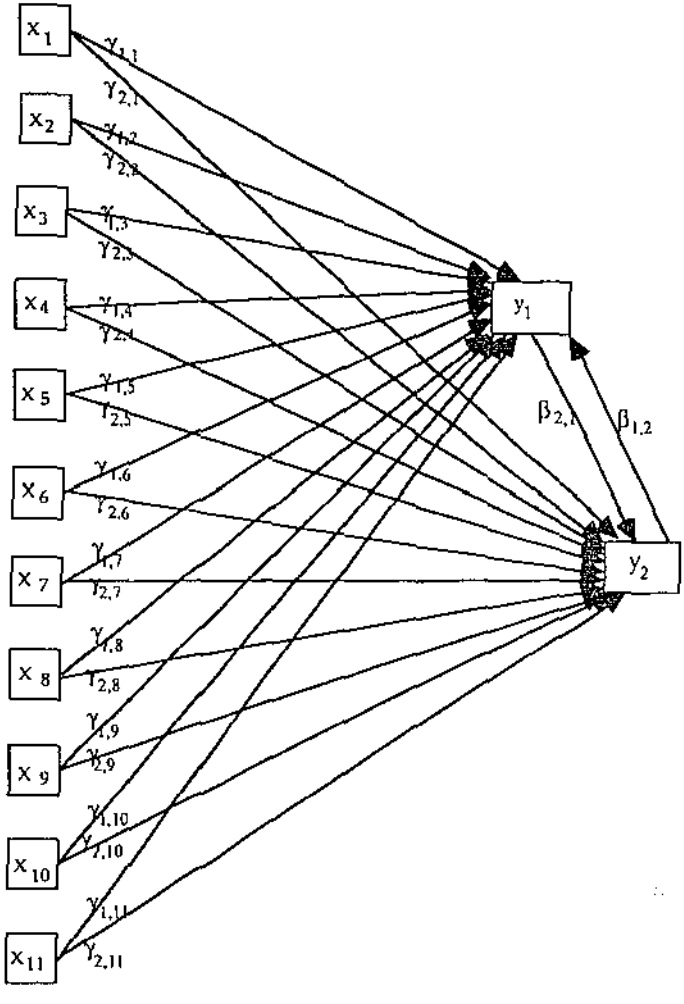


Figure 7.1: Initial causal model of teacher stress

$$\begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} 0 & \beta_{12} \\ \beta_{21} & 0 \end{pmatrix} \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} + \begin{pmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & \gamma_{14} & \gamma_{15} & \gamma_{16} & \gamma_{17} & \gamma_{18} & \gamma_{19} & \gamma_{1,10} & \gamma_{1,11} \\ \gamma_{21} & \gamma_{22} & \gamma_{23} & \gamma_{24} & \gamma_{25} & \gamma_{26} & \gamma_{27} & \gamma_{28} & \gamma_{29} & \gamma_{2,10} & \gamma_{2,11} \end{pmatrix} \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \\ x_7 \\ x_8 \\ x_9 \\ x_{10} \\ x_{11} \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \end{pmatrix} \quad \text{...(2)}$$

or written as:

$$y_1=\beta_{12}\, y_2+\gamma_{11}\, x_1+\gamma_{12}\, x_2+\gamma_{13}\, x_3+\gamma_{14}\, x_4+\gamma_{15}\, x_5+\gamma_{16}\, x_6+\gamma_{17}\, x_7+\gamma_{18}\, x_8+ \gamma_{19}\, x_9+\gamma_{1,10}\, x_{10}+\gamma_{1,11}\, x_{11}+\zeta_1 \quad \text{...(3)}$$

$$y_2=\beta_{21}\, y_2+\gamma_{21}\, x_1+\gamma_{22}\, x_2+\gamma_{23}\, x_3+\gamma_{25}\, x_5+\gamma_{26}\, x_6+\gamma_{27}\, x_7+\gamma_{28}\, x_8+ \gamma_{29}\, x_9+\gamma_{2,10}\, x_{10}+\gamma_{2,11}\, x_{11}+\zeta_2 \quad \text{...(4)}$$

where: y_1=stress

y_2=satisfaction

x_1=sex

x_2=age

x_3=length of teaching experience

x_4=year level taught

x_5=level of qualification

x_6=type of employment

x_7=category of employment

x_8=school-level concerns

x_9=influences external to the school

x_{10}=time

x_{11}=student-related

The Lisrel VII program allows the testing of a hypothesised model against a second or subsequent model in which one or more of the parameters have been relaxed. The program also makes suggestions as to which modifications should be made. Any real improvement in the model may be determined in the Lisrel VII program by a number of methods. These include comparing the drop in chi-square from the restricted to the relaxed model to the drop in degrees of freedom, and higher estimates for the goodness of fit index, the adjusted goodness of fit index and the root mean square residual.

In the case of the present study, five independent variables were removed from the original model prior to the application of the Lisrel VII program to determine the best model. These variables, which included "age", "length of teaching experience", "year level taught", "level of qualification" and "type of employment", were removed after initial analyses (t-tests and analyses of variance) revealed that they had no significant effect on stress.

During the three phases of analysis which followed the removal from the model of the previously discussed independent variables, restrictions were placed on the model due to path values being low when compared to standard errors. As a consequence this, the T values of these paths were less than 2.0, which meant that, according to Munck (1979) and Joreskog and Sorbom (1989), they cannot be judged as being significantly different from zero. In addition to these restrictions, after each phase of analysis the Lisrel VII program identified modification indices which were incorporated in the next analysis.

Table 7.1 summarises the three phases of analysis used to determine the final model. This table shows that the first phase of analysis included the independent variables "sex", "category of employment", "school-level concerns", "issues external to the school", "time" and "student-related". The first phase of analysis was also characterised by the paths from "school-level concerns" to "stress" and from "time" to "satisfaction" being fixed. In addition, the Beta (B) matrix was full and fixed, meaning that all the paths between the dependent variables were considered in the analysis.

Table 7.1
Determination of a Causal Model of Teacher Stress

Phase	Characteristics	χ^2	GFI	AGFI	RMSR
1	BE=FU,FI, fixed paths=$\gamma_{1,3}$, $\gamma_{2,5}$, freed paths=$\beta_{1,2}$, $\beta_{2,1}$	0.04 (p=0.844) 1 degrees of freedom	1.0	0.999	0.012
2	additional fixed path $\gamma_{2,4}$, no other changes	0.28 (p=0.868) 2 degrees of freedom	1.0	0.995	0.034
3	BE=SD, no other changes	0.74 (p=0.864) 3 degrees of freedom	0.999	0.992	0.040

In the second phase, an additional path, between "issues external to the school" and "satisfaction" was fixed, with all the other conditions similar to the first phase of analysis. Only one further modification was made in the final phase with the path from "satisfaction" to "stress" being fixed. This phase of the model development yielded the best measure of fit using the goodness of fit measures associated with the Lisrel VII program. A further examination of the Lisrel VII output revealed that no substantively

meaningful adjustments to the model needed to be made to improve the fit of the data to the model. The final outcome of the Lisrel VII analyses is presented in Figure 7.2, together with the path values judged to be significantly different from zero. The test of significance for path values is the ratio of a parameter estimate to its standard error. This T-ratio approximates the standard normal distribution and, therefore, may be used to decide the statistical significance of the path coefficient (Bentler, 1980). According to Joreskog and Sorbom (1989) and Munck (1979) paths judged to be significantly different from zero are those whose T-values are greater than 2.0.

The final model entered into the Lisrel analysis is represented by the following equation:

$$\mathbf{Y}=\mathbf{B}\mathbf{Y}+\Gamma\mathbf{X}+\zeta \qquad (5)$$

which, in matrix form, is:

$$\begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} 0 & 0 \\ \beta_{21} & 0 \end{pmatrix} \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} + \begin{pmatrix} \gamma_{11} & 0 & 0 & 0 & 0 & 0 & \gamma_{17} & 0 & \gamma_{19} & \gamma_{1,10} & \gamma_{1,11} \\ \gamma_{21} & 0 & 0 & 0 & 0 & 0 & \gamma_{27} & \gamma_{28} & 0 & 0 & \gamma_{2,11} \end{pmatrix} \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \\ x_5 \\ x_6 \\ x_7 \\ x_8 \\ x_9 \\ x_{10} \\ x_{11} \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \end{pmatrix} \qquad (6)$$

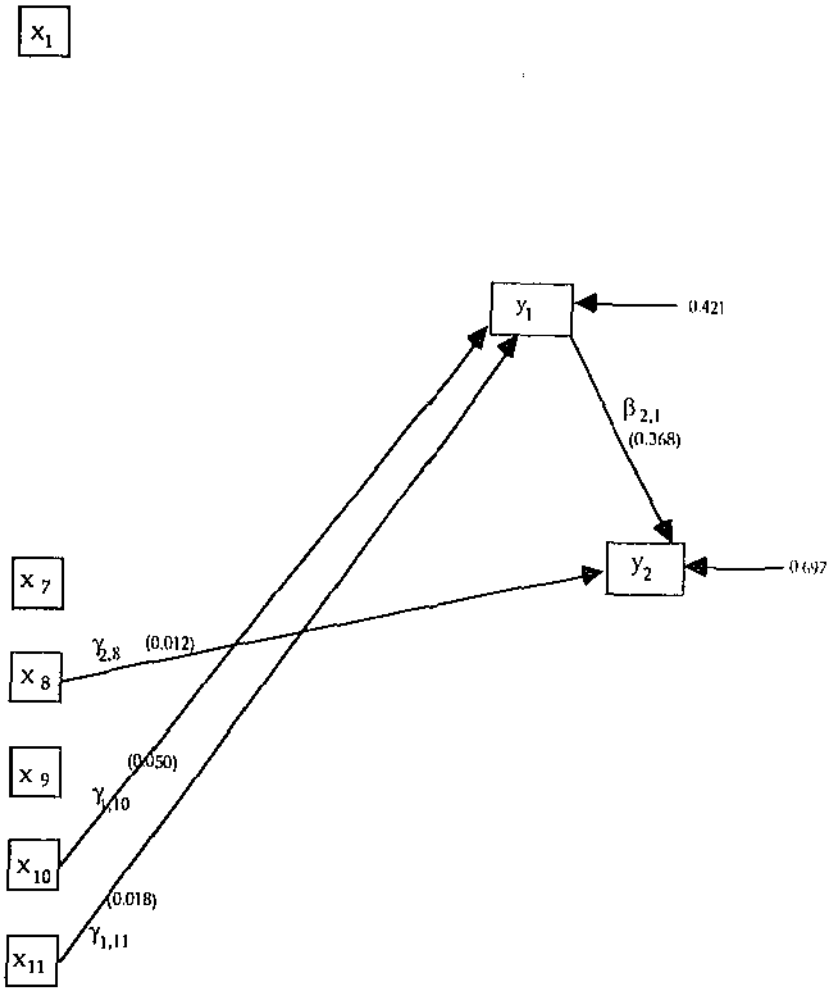


Figure 7.2: Final outcome on Lisrel analysis of teacher stress model

or written as:

$$y_1=\gamma_{11}\, x_1+\gamma_{17}\, x_7+\gamma_{19}\, x_9+\gamma_{1,10}\, x_{10}+\gamma_{1,11}\, x_{11}+\zeta_1 \quad (7)$$

$$y_2=\beta_{21}\, y_2+\gamma_{21}\, x_1+\gamma_{27}\, x_7+\gamma_{28}\, x_8+\gamma_{2,11}\, x_{11}+\zeta_2 \quad (8)$$

where: y_1=stress

y_2=satisfaction

x_1=sex

x_7=category of employment

x_8=school-level concerns

x_9=influences external to the school

x_{10}=time

x_{11}=student-related

Analysis of the Causal Model

An examination of the final causal model, as depicted in Figure 7.2, reveals the presence of three significant paths from the independent variables to the dependent variables. However, while the value of these paths are accepted under the criteria that T>2.0, the estimates are extremely weak and appear to have no practical significance.

Figure 7.2 does reveal a significant path between the dependent variables, from "stress" to "satisfaction". Of the four significant paths in the final causal model, with T>2.0, this is the strongest, and indicates that job stress contributes to dissatisfaction. Therefore, procedures aimed at decreasing job stress should result in an increase in levels of satisfaction.

Such an association is different to that reported by Smith and Bourke (1990) who found that occupational satisfaction mitigated stress.

The absence of a significant path from "issues external to the school" to either of the dependent variables merits some comment. Such an absence would appear to suggest that teachers may be more concerned with the immediate, in terms of location, situational events. Consequently, the role of school-level administrators in the implementation of policies to reduce job-related stress and increase occupational satisfaction may be of some importance.

While the final causal model indicated the existence of three significant paths from the independent to the dependent variables, the absence of any such paths from the socio-biographical independent variables to "stress" is of some interest. This is contrary to the models of stress discussed by Kyriacou and Sutcliffe (1978a), Smith and Bourke (1990) and Tellenback et al. (1983), but supports the model developed by De Frank and Stroup (1989). Essentially, the causal model developed in the present research demonstrates the inconsistency of the occupational stress process among teachers in different school types and geographical locations.

Summary

The causal model of stress which has been derived in the current investigation is unique to Western Australian educational research. Consequently, this model could be used as a framework from which to develop future research into teacher stress in Western Australia. The model was developed according to the principles of structural equation

modelling in general, and the Lisrel VII model in particular. Three paths, significantly different from zero, were confirmed between the independent variables and the dependent variables. These paths were from "time" and "student-related" to "stress" and from "school-level concerns" to "satisfaction". The presence of a fourth path, from "satisfaction" to "stress" was also confirmed, and this path had the strongest estimate of all the significant paths in the model. However, in themselves, these paths did not have strong value estimates of practical significance.

This chapter completed the quantitative analysis of the data obtained by the research instrument. As discussed in Chapter V, qualitative information was obtained by conducting interviews with a number of teachers. The information obtained during these interviews forms the basis of the discussion in the next chapter.

CHAPTER VIII

DISCUSSION OF INFORMATION OBTAINED FROM THE INTERVIEWS

Introduction

The aim of this chapter is to discuss the qualitative information obtained throughout the present study. Such information was obtained from a variety of sources including interviews with twenty-four teachers, observations made by the present researcher during the interviews, discussions with principals during the distribution of the questionnaires and written comments made by teachers on the questionnaires. These sources of information form the general framework of the chapter.

Interviews

The interview methodology has been discussed previously in Chapter V. To recapitulate briefly, each interview followed a five-question format:

(a) socio-biographical information and responses to the questions on occupational satisfaction and stress were obtained;
(b) the interviewees were asked to discuss their perceptions of the attitude of the Ministry of Education and/or the Government of Western Australia towards teachers;
(c) a detailed exploration of the situations listed in section four of the questionnaire which the interviewees believed to cause them "much" or "extreme" stress;

(d) the interviewees were asked their opinion on whether the occurrence of many normally non-stressful events in a relatively short period of time could cause a high degree of stress; and

(e) a question was asked on the interviewee's perception of the questionnaire, particularly the identification of criticisms and strengths of the instrument.

This five-question format will form the framework for the discussion of information obtained from the interviews. When analysing such information, due consideration should be given to the fact that the interviewees were volunteers. Furthermore, the interviews concentrated on the elaboration of situations which caused stress, rather than why these situations were considered to be stressful.

Socio-Biographical Details and Perceived Levels of Satisfaction and Stress

Table 8.1 summarises the responses to these questions. The most notable trends revealed in this table include that the majority of teachers interviewed were female (in the same ratio as for the full sample); aged between twenty-six and forty-five years; have taught for twenty years or less, with a teaching experience of between six and ten years being the mode; hold a Diploma of Teaching; are employed on a full-time basis; and have permanent positions. Junior primary and senior primary teachers were represented equally.

Table 8.1
Socio-Biographical Details and Perceived Levels of Satisfaction and Stress

Socio-Biographical Characteristics	Category	Frequency
Sex	Male	6
	Female	18
Age (in years)	20-25	-
	26-30	4
	31-35	5
	36-40	5
	41-45	4
	46-50	5
	51-55	1
	55+	-
Length of Teaching Experience (in years)	0- 5	1
	6-10	11
	11-15	4
	16-20	6
	21-25	2
	26-30	-
	31-35	-
	35+	-
Year Level Currently Teaching	K-3	11
	4-7	13
Qualification	Diploma of Teaching	14
	BA (Teaching)	-
	BEd	8
	Degree & Diploma of Education	2
	Post-Graduate Qualification	-
Type of Employment	Full-time	18
	Part-time	6
Category of Employment	Permanent	20
	Temporary	4
Measure of Job Satisfaction	Very Satisfied	9
	Fairly Satisfied	11
	Neutral	1
	Fairly Dissatisfied	3
	Very Dissatisfied	-
Measure of Stress Level	Not at all	1
	Mild	10
	Moderate	7
	Very	4
	Extreme	2
Interview Time (minutes)	30	1
	35	3
	40	6
	45	5
	50	1
	55	1
	60	2
	65	-
	70	1
	75	2
	80	-
	85	-
	90	3

In relation to job satisfaction, a great majority were either "very" or "fairly" satisfied with their occupation. However, the responses to the question on perceived level of stress revealed a different trend, with slightly over half the teachers feeling "moderately stressed", or worse, by their job. Only one teacher found teaching to be "not at all stressful".

Finally, the majority of the interviews were conducted in forty-five minutes or less, although eight teachers discussed the questions posed for more than one hour.

Perceived Attitude of Ministry of Education and/or Government of Western Australia

Very few teachers distinguished between the Ministry of Education and the Government of Western Australia. With one exception, all teachers interviewed were of the opinion that teachers are not valued by the Ministry of Education and/or the Government of Western Australia. The one exception was a teacher who had recently arrived in Western Australia, and thought, that by comparison with another government education system, the Ministry appeared to be more publicly supportive of teachers.

A very frequent comment was that teachers believed they were treated as numbers by the Ministry and /or Government. Some mentioned that the system had become "dehumanised". Many references were made about the impact of recent changes, and how these changes were under-resourced and expected to be implemented too quickly.

Examples cited as evidence of the perceived lack of support from the Ministry and/or Government included the offer of an extra eight hundred

dollars a year for an extra three hours work a week; wastage of time on identifying performance indicators because subsequently the Ministry presented its own effort; removal of support mechanisms; principals being turned into financial managers and not educational leaders; the political nature of educational decisions; a lack of in-service courses and adequate resources for the new English and Mathematics syllabi; poor treatment of temporary teachers (not knowing if they will have employment in the following year); lack of personal contact with Ministry representatives; Ministry concern with public relations and disinterest with what occurs in the classroom; teachers not being treated as professionals; relatively low salary in comparison with non-skilled occupations - with the additional scepticism whether Australia can become the "clever country"; economic, rather than educational, basis of decisions; the deduction of six hours pay in the 1989 strike demonstrating that the government is not willing to recognise the long hours which teachers work; the damage caused to teachers' morale due to the policies and events of the late 1980's and the unwillingness to spend money to repair the damage; and lack of public acknowledgement of teachers' worth.

Table 8.2 reveals quotations from the interviews which give an accurate reflection of the general perception of the teachers interviewed.

Discussion of Potentially Stressful Events

As discussed in Chapter VI, eight factors were extracted from the data collected in term two, 1991. These factors form the framework for the discussion on the information obtained about the items listed in section four of the questionnaire.

Table 8.2
Quotations From Interviews

---

(1) As a whole the Ministry body are (sic) not in touch with the job of teaching.

(2) Ministry/Government see us as numbers/sheep. I maintain that the schools could close down for three months and the Ministry would not know. I feel sorry for the Ministry because they do not know what they are doing. Leadership is lacking in the Ministry. However, I believe that the Ministry has good intentions and these are not translated into action.

(3) I feel as if I am a number to the Ministry/Government. Once I was a person to the Ministry (probably just over five years ago). The system appears to have been dehumanised. In contact with Ministry officials lack of personal warmth - often fobbed off. Too many non-teachers in the Ministry. How can they know what happens in schools? Superintendents were previously (about 1985, 1986) seen more - good for students. Now we hardly see any Ministry officials.

(4) The attitude of the Ministry and Government towards children is poor because classes should be smaller. Attitude towards teachers is also not good - resources being cut, more expected and very little in-servicing for new courses. Teachers are viewed as conservative - we will not take radical action because we care for the kids. We are kept busy to keep quiet. I am a number to the Ministry- not an individual.

(5) To the Ministry we are out of sight - out of mind. To the Government we are only important at election or budget time. The Ministry's schemes seem to be thought up with little regard to teachers. Decisions are made by people in the Ministry who have been out of the classroom too long. Practicalities of implementation are ignored. I feel as if I am treated as a number, not a person. I have only met the superintendent of our district once this year - this is an example of the lack of personal contact.

(6) The Ministry and Government are becoming one entity, although they should not be. They view me as being ignorant. Only interested in public image and keeping teachers quiet. All "new" syllabi are not new - merely rehashed with different terminology and jargon. Government/Ministry are keeping us under threat so that we will not cause trouble. I am not valued as an individual by the Ministry - they (sic) would not know that I exist.

(7) Politicians use publicity at school for their own gains.

Factor One: School-Level Concerns

Three themes, including the role of the principal, staff-related issues and dislike of the school, emerged within this factor. The number of responses to the items in this factor is presented in Table 8.3.

Table 8.3
Frequency of Responses to Potentially Stressful Items for School-Level Concerns (N=24)

Item	Frequency
7. Lack of support from the principal.	6
11. Principal displaying favouritism towards some staff members.	2
15. Feeling socially isolated from the staff.	1
16. Inadequate school-level discipline policy.	2
24. Inadequate communication system within the school.	3
29. Student-free days are inappropriately used.	2
31. Feeling professionally isolated from the staff.	1
35. Failure of the principal to provide adequate resources.	2
44. Having some teachers in the school who are perceived not to do their share of the workload.	5
48. Lack of definitive school policy on pastoral care.	0
49. Lack of participation in decision-making at the school-level.	2
53. Lack of co-operation between the staff.	1
56. Being unsatisfied with my job.	2
57. Working in a poorly managed school.	3
63. Difficulty in obtaining transfer from unhappy school situation.	1

Teachers described lack of support from the principal in relation to parent-related issues, with one incident of a principal revoking a commitment to staff over parents having to make appointments for interviews. Another principal was described as an autocrat, yet gave a different appearance. According to the interviewee, teachers feared recrimination if they disagreed with this principal. While criticising principals for lack of support, two teachers blamed this on the frequent absences of principals due to attendance at conferences, courses and Ministry of Education business. However, probably the worst instance of lack of principal

support was related by a teacher who reported that he/she was subjected to harassment and vindictive treatment by the principal due to a friend of the principal wanting this teacher's job.

Two teachers complained of principals who displayed favouritism towards staff members. Instances of such favouritism were alleged to involve both male and female teachers, some principals favouring one gender over the other. Failure of the principal to provide adequate resources received comments in relation to the purchase of teaching equipment and lack of funds to attend professional development courses. The reason for the latter was suggested in terms of staff acquiring too much knowledge, thereby presenting a threat to the principal.

Other comments which can be related to the responsibilities of principals in schools included opinions on inadequate school-level discipline policies, inadequate communication within the school, inappropriate use of student free days, lack of definitive school policies on pastoral care, lack of participation in school-level decision-making and working in a poorly managed school. Inadequate school-level discipline policies were blamed on frequent absences of the principal and lack of parental support. One teacher commented that the managing school behaviour program was not being implemented properly due to the lack of staff professional development. In addition, this teacher suggested that children were learning to push the system to the limit without suffering punitive action.

Examples to highlight inadequate school-level communication included reliance on written notes, lack of personal approaches, selective distribution of information and lack of notification on forthcoming events.

Furthermore, one school was described as being too large, resulting in an extra staff meeting having to be scheduled each week.

Inappropriate use of student-free days was exemplified by a too great a focus on school development plans at the expense of more practical issues, and a lack of serious application to set tasks. The lack of definitive school policies on pastoral care was described by teachers as self-explanatory and, therefore, attracted no further comments.

Two main instances were cited in relation to lack of participation in decision-making. These included principal domination through information overload and pseudo-participation. The latter involved discussion on issues for which a decision had already been made.

In relation to the issue of a poorly-managed school, one teacher did not blame the principal, but the large size of the school. Other examples discussed included poor quality leadership and a principal who announced to his staff that because he was in the last five years of service his intention was not to do very much.

Of the four items pertaining to staff issues, two related to feelings of professional and social isolation. The former was exemplified by lack of teamwork and professionalism. In addition, the impact of professional isolation on the development of feelings of inadequacy and acquisition of relevant information was discussed. Comments on social isolation included missing out on social and professional information. One teacher stated that being a smoker contributed to social isolation.

One issue which received particularly strong comments related to having staff in the school who were perceived not to be doing their share of the workload. Examples of this included senior teachers not fulfilling their responsibilities, permanent teachers being unco-operative, specialist teachers being regarded as a source of duties other than teaching time and teachers being too concerned with petty issues.

The teacher who commented on a lack of co-operation between staff suggested that some colleagues were not willing to discuss their teaching methods for fear of criticism, while others tended to "grandstand" about their efforts. This teacher suggested that there was a need for professional development activities on this issue.

The third theme, dislike of the school, comprised two items. These included difficulty in obtaining a transfer from an unhappy school situation and job dissatisfaction. The former was described as self-explanatory, while the latter evoked responses which commented on the reality of teaching not equalling the pre-conceived perception. An interesting comment on the job dissatisfaction item was the possible lack of alternative occupations due to being trained as a teacher.

Factor Two: Issues External to the School

The overall number of responses to each of the items in this factor is indicated in Table 8.4. Three themes were evident in this factor, the most dominant, comprising seven of the eleven items, being the Ministry of Education.

Table 8.4
Frequency of Responses to Potentially Stressful Items for Issues External to the School (N=24)

Item	Frequency
10. Failure of the Ministry of Education to provide adequate resources.	7
12. Changes initiated by the Ministry of Education are expected to be implemented too quickly.	4
22. Lack of appreciation of teachers by the general community.	9
25. Poor Union-Ministry relations.	3
28. Inept leadership by the Ministry of Education.	4
34. Inadequate communication between the Ministry of Education and classroom teachers.	7
40. Lack of support from the Union.	4
41. Having little influence over political decisions in relation to education.	7
46. Lack of professional development activities which do not interfere with private time.	6
55. Lack of recognition of good teaching by the Ministry of Education.	7
59. Political interference in education.	3

In relation to the Ministry of Education, seven teachers criticised this organisation for failing to provide adequate resources. A frequent comment was that this problem was becoming more noticeable, particularly with the introduction of new courses and the mandated timetable for the introduction of such courses. Consultation between the Ministry and teachers about resource provision was urged, while one teacher was particularly critical of Ministry demands upon teachers in relation to course development. Two teachers commented about the increased publication of glossy literature at the same time as resources to schools are being decreased.

The speed with which the Ministry expects changes to be implemented attracted critical observations. Examples of such changes included the art, handwriting, language and mathematics syllabi. One teacher believed that this situation was complicated by a lack of relevant in-service

courses. Furthermore, fulfilling normal school duties was seen as time-consuming enough, without the added pressure of implementing change.

Inadequate communication between the Ministry and classroom teachers received some disparaging remarks. One teacher related this issue to inept Ministry leadership. Another commented that there was no effective communication, while two teachers discussed the use of glossy literature as being worthless for the purpose of communication. The lack of in-service courses for new curricula was cited by one teacher as an example of the lack of communication, and the use of non-descriptive titles, such as Ms, caused stress to another teacher.

The issue of perceived inept leadership by the Ministry of Education evoked a variety of responses. These included claims for the need for more consultation with teachers, perceived wastage of money and resources, a perceived lack of priorities being demonstrated by the Ministry and the apparent lack of concern about the impact of decisions on children and teachers.

Two teachers blamed the occurrence of poor Union-Ministry relations on the Union. One other teacher was stressed by the results of this situation - having to decide whether or not to participate in industrial action.

The perceived lack of recognition of good teaching by the Ministry resulted in almost a standard comment. Teachers suggested that there was no effective recognition, the current system of honour certificates and stars in the staffing book being regarded as a joke. Sincere incentives and recognition of good teaching were requested by those teachers who commented on this item.

The suggestion of a lack of professional development activities which do not interfere with private time received a variety of responses including one which related this issue to budgetary cutbacks. Two teachers commented on interference with their private lives, while another suggested that, if some professional development activities are considered to be important, then relief should be provided for teachers to attend during normal working hours. One teacher stated that teachers already work very hard: therefore, having to attend professional development activities in private time was unfair. A preference for a longer working day was expressed by another teacher, professional development activities to be included in the extra time.

Two items concerned the perceived lack of appreciation or support from groups outside the school. Responses to the item on lack of appreciation of teachers by the general community were concerned with the provision of examples. These included no respect for teachers, constant criticism of teachers' holidays, unsympathetic media reports, attacks on teachers by the Government and Ministry of Education, lack of support from the Ministry and general constant criticism. Parents were also mentioned in several comments, including complaints about having to pay small amounts for special school activities, blaming teachers for their child's lack of progress, treating teachers with contempt and lack of parental support. One further example was criticism from parents emanating from the teaching of non-traditional subjects such as sex education.

Two teachers described lack of support from the Union as resulting from the Union executive being too concerned with their own political futures. Results of the lack of Union support were cited as an erosion of working conditions and the lack of effectiveness of the 1989 strike. One teacher

described a specific situation in which no support was received from the Union, while another suggested that the only reason for Union membership was job security. Furthermore, this teacher stated that the Union executive was not in touch with the general membership.

The final theme in this factor, politics and education, attracted a comment stating that this phenomenon had become more noticeable, education having become a vote-catching issue. Political party statements were described as more rhetoric than reality. One teacher related political interference in education to the declining amount of resources being made available and suggested that teachers are now expected to do more for less. A second item in this theme was concerned with having little influence over political decisions in relation to education. Essentially, the seven teachers who commented on this item believed that because they have the practical experience, some form of consultation should occur. One teacher suggested that the Ministry of Education was more concerned with public relations exercises, while another was critical about decisions being made solely on monetary grounds.

Factor Three: Time

Two themes could be discerned in the factor "time", with the number of responses to each of the items summarised in Table 8.5. The first of these themes included items which related to duties other than teaching. Spending time on duties other than teaching was cited as interfering with marking and preparation. One teacher related this issue to a lack of time in school for marking and preparation. Examples of duties other than teaching included playground supervision, completing surveys, tending to the welfare needs of students, deciding on performance indicators, sport,

book-week, dealing with principal-generated communications, voluntary extra-curricular work and assembly items.

Table 8.5
Frequency of Responses to Potentially Stressful Items for Time (N=24)

Item	Frequency
1. Spending time on duties other than teaching.	6
13. Not having enough time during the school- day for marking and preparation.	8
18. Intrusion of school-related work on private time.	8
26. Being expected to fulfil a number of conflicting roles.	3
32. Pressure on time due to increasing workloads.	6
37. The repetitive nature of having to prepare teaching programs.	2
39. Having to undertake duties other than teaching.	4
45. Pressure on time due to increasing expectations.	6
46. Lack of professional development activities which do not interfere with private time.	6
60. Pressure on time due to having to meet deadlines.	0

Having to spend time on duties other than teaching was an item closely related to the issue discussed previously. Similar examples were cited, but also included were committee work and attendance at professional development courses. One teacher suggested that release time for committee work and professional development courses was limited by funding. Another teacher stated that the principal refused to support time off to attend professional development courses.

Being expected to fulfil a number of different roles was related, by one teacher, to being expected to fulfil a number of different expectations from a variety of sources. Two other teachers gave examples of the conflicting roles which they faced including social control, evaluation responsibilities, clerical duties and collecting money. Such roles also appeared to be

increasing, according to one teacher, and combined with the constant criticism, made teaching difficult.

The second theme was concerned more directly with teaching duties. Not having enough time during the school-day for marking and preparation was related commonly to a lack of duties other than teaching time. This was compounded by other demands made upon teachers during the school-day. One teacher posed the question about why pre-primary teachers have one day a week for preparation and a full-time aide, while other primary teachers did not enjoy such privileges. A senior primary teacher discussed the large amount of time required to mark students' work.

Three teachers related pressure on time due to increasing expectations to the items on increasing workloads, duties other than teaching time, lack of resources, curriculum changes and different expectations. Examples discussed by teachers included the increase in the number of subjects which have to be covered in the classroom and accountability. Those teachers who mentioned the former suggested that this reduced the enjoyability of school for both students and teachers.

Comments about the intrusion of school-related work on private time were grouped in two main categories. First, three teachers were concerned about the impact of this aspect on their family lives and the contribution of this issue to tiredness. The second category was concerned with the provision of examples which included preparation, marking, programming, obtaining resources, parent interviews, attending professional development courses, writing reports and arranging exhibitions. The use of private time on school work was expected by one teacher, but not to the

extent being experienced, while another suggested that this was an increasing occurrence.

Lack of professional development activities which do not interfere with private time was related to the "time" factor, as well as to the second factor - "issues external to school". As such the responses to this item have already been discussed.

The repetitive nature of having to prepare teaching programs was discussed in terms of boredom and the non-provision by the Ministry of a programming format such as that prepared by the South-West regional educational office. The latter was of particular importance to a temporary teacher.

The final two items in this factor, pressure on time due to increasing workloads and having to meet deadlines, were related together by two teachers. The issue of increasing workloads was also related to other items including changing curriculum, lack of time in school for marking and preparation, intrusion on private time and changes being implemented too quickly. One teacher noted that the workload issue was increasing, while another could see no adequate solution to this problem.

Factor Four: Student-Related

Two main categories of items, those which related either directly or indirectly to students, emerged within the factor "student-related". Table 8.6 indicates the number of responses to these items.

Table 8.6
Frequency of Responses to Potentially Stressful Items for Student-Related (N=24)

Item	Frequency
9. Being expected to fulfil a number of different expectations from a variety of sources.	5
14. Having to deal with disruptive students.	12
17. Teaching a class which has a wide range of learning abilities among the students.	6
27. Having students in the class who are continually disobedient.	7
30. Teaching students whose attendance at school is inconsistent.	3
33. Teaching students who have unrealistic expectations of themselves.	2
43. Teaching students who are not interested in their schoolwork.	6
47. Dealing with students who physically attack each other.	3
48. Lack of a definitive school policy on pastoral care.	0
52. Teaching students whose level of achievement is less than expected.	2
54. Pressure on time due to preparation for individual students.	1
58. Lack of support from parents in the education of their child.	6

Nine items comprised the first category. Having to deal with disruptive students received more responses than any other item in section four of the questionnaire. One teacher related this issue to lack of support from the school psychologist, inadequate school-level discipline policy, continually disobedient students and teaching students who are not interested in their schoolwork. Five suggested that one or a few disruptive students could ruin a class. Two argued that such students have no right to interfere with the education of other students, and could not see why teachers should have to tolerate disruptive students. Three teachers referred to specific examples which included one boy who was described as physically aggressive, completely disruptive, totally anti-social and unresponsive to behaviour modification programs; children who should be in educational support units, but are not, owing to resource problems; and Year One students who had no manners, were not toilet-trained, steal and answer back.

Four teachers commented on limitations to managing school behaviour programs. One teacher could not see any justification for rewarding a student for behaving, when this should be occurring anyway.

In relation to teaching a class which has a wide range of learning abilities among the students, five teachers suggested that the progress of the more able students is held back by having to cater for the weaker students. One was of the opinion that teaching to the middle range of students neglects both top and bottom students. Another teacher commented on the extra planning required and that the students who are bored can become behaviour problems.

Having students in the class who are continually disobedient was related to lack of parental support and inadequate school-level discipline policy by two teachers. Three teachers commented that only a few continually disobedient students can disrupt the whole class. Four teachers spoke of the negative impacts on themselves of such students. Examples of these included annoyance, tiredness, anger, loss of temper and the overall time wasted.

All three who responded to the item on teaching students whose attendance at school is inconsistent commented on the resulting extra workload. One teacher stated that when such children returned to school they were often unsettled, especially if they had been on a holiday. Another teacher commented that the students whose attendance was inconsistent tended to be the weaker students.

Two distinct responses to teaching children who have unreal expectations of themselves were discerned. First, children's self-expectations are

influenced by parental expectations, which can sometimes be inappropriate. Second, students regard school as a social event, with the possibility that this approach is a reflection of parental attitudes towards school.

Five teachers related the issue of teaching students who are not interested in their schoolwork to disruptive students, continually disobedient students and lack of parental support. One teacher thought that this was a reflection of students viewing school as a place to socialise. Another teacher could see no point in giving up personal time to help disinterested students.

Of the three responses to the item on dealing with students who attack each other physically, one teacher spoke of the emotional effort involved in separating such students. The other two teachers did not know what to do with these types of students, particularly when they are so young.

One teacher commented on the extra time required to help students whose level of achievement is less than expected. A second teacher wondered what could be done with these students, especially given time constraints.

The final item in the first category, pressure on time due to preparation for individual students, was discussed by one teacher. Within the discussion, this issue was related to increasing expectations, resulting in extra work to prepare individual programs for some students.

Three items comprised the second category of responses to items in this factor. A lack of definitive school policy on pastoral care received no

comments. However, the remaining two items evoked a variety of responses. In relation to being expected to fulfil a number of different expectations from a variety of sources, two teachers stated that they resented criticism from the public when they were doing the best they could in their job. One suggested that such expectations are increasing and that teachers are facing increased community demands to improve the basics and quality of education, while the Ministry of Education is implementing "watered down" curricula such as the new mathematics syllabus. One teacher related this issue to governments expecting a lot from teachers without the necessary funding and resources. Another teacher commented on parental interference in the classroom and suggested that there was a lack of definition in a teacher's role.

The final item was the suggested lack of support from parents in the education of their child. All six teachers who responded to this issue gave examples. Two of these teachers commented on lack of parental assistance in developing students' skills at home: for example, in reading. The issue of reading was also cited as a case in which parents blamed teachers for a lack of progress in their children, when these particular children were either having difficulties or were not ready to learn. One teacher stated that all some parents wanted to do was criticise, and that these parents did not act on information contained in notes sent home. Another example included parents complaining about a teacher to higher levels of authority, without having first approached the school. Further examples included lack of parental support for extra-curricular activities, resulting in extra work for teachers; abusive letters from parents based on incorrect information from their children; continually questioning a teacher's ability; blaming the teacher when their child has a poor attitude to work; and looking down on a teacher because she is female.

Factor Five: Interference with Classroom Activities

The number of responses to items in this factor is presented in Table 8.7. These responses will be discussed within three themes. First, interruptions to the teaching program, which included aspects such as the four-term year, extra-curricular activities and the hot weather at the beginning of the year. In relation to interruptions to the teaching program due to the four-term year one teacher expressed concern that the short terms not only prevented coverage of the curriculum in sufficient depth, but also facilitated the development of a more casual approach to work by some teachers and students. Two teachers commented on starting the school year too early during the hottest part of the summer, one of these suggesting the implementation of summer holidays instead of Christmas holidays. Timing of the holidays was also mentioned in relation to the item on the hot weather at the beginning of the year.

Table 8.7
Frequency of Responses to Potentially Stressful Items for Interference With Classroom Activities (N=24)

Item	Frequency
4. Too many interruptions to the teaching program due to the four-term year.	3
38. The hot weather at the beginning of the year.	3
60. Pressure on time due to having to meet deadlines.	0
61. Lack of co-operation from welfare agencies.	1
64. Too many interruptions to the teaching program due to extra-curricular activities.	7
65. Lack of practical support from the school psychologist.	2

The seven teachers who discussed the issue of too many interruptions to the teaching program due to extra-curricular activities cited examples including sport, visitors to the school, concerts and assemblies. One

teacher commented on the lack of appreciation expressed by parents for organising events such as sports' carnivals. This teacher stated that teachers were mostly criticised for the organisation of such events, particularly if the school did not win. Another teacher spoke about the difficulty in quietening children after sport and the problem of rearranging duties other than teaching time.

Every teacher (twenty-four) interviewed mentioned the hot weather at the beginning of the school year. Due to the self-explanatory nature of this item only three responses were recorded. Among the comments noted were the problem of teaching in demountable classrooms, teaching physical education and, as discussed previously, altering the timing of the summer holidays.

The second identified theme related to lack of support from sources outside the classroom. Three teachers discussed the lack of co-operation from welfare agencies and lack of practical support from the school psychologist. One teacher commented on the former in terms of the provision of inappropriate assistance and an unwillingness to recognise that a student may have a psychological problem. Two teachers spoke about the latter, both of whom mentioned the lack of availability of the school psychologist. One teacher also discussed the need for persistency to ensure that action will occur. Another item of relevance to this theme was political interference in education, responses to which were examined in the discussion on the factor identified as "influences external to the school".

Pressure on time due to having to meet deadlines was the third theme in this factor. This issue has also been discussed previously in the section on factor three - "time".

Factor Six: Role Expectations

Table 8.8 indicates the number of responses to the items in this factor. Two categories of responses emerged, the first of which was related to expectations being placed on teachers from sources outside the school. One of the items in this category, unrealistic community expectations of teachers, evoked the second greatest number of responses to all the items in section four of the questionnaire. Two teachers related this issue to student welfare needs, while another related this to the perceived poor state of the guidance system. A great majority of teachers commented that they are now expected to perform parental roles and responsibilities: for example, manners and discipline. Other roles which teachers have acquired were cited as disciplinarian, marriage guidance counsellor, nurse, parent, and psychologist. Two teachers commented on parental criticism arising from teaching controversial subjects such as sex education and religion. One cited an example of parents refusing to believe that their child was not exceptional, and accused the teacher of teaching this child at the wrong level. Some teachers related how they had purchased lunches, excursion fares, pencils and crayons for children. Another described how parents in the higher socio-economic areas think that they have the right to tell teachers how to teach.

Table 8.8
Frequency of Responses to Potentially Stressful Items for Role Expectations (N=24)

Item	Frequency
5. Unrealistic community expectations of teachers.	11
6. Having to deal with the welfare needs of parents.	2
9. Being expected to fulfil a number of different expectations from a variety of sources.	5
23. Having to deal with the welfare needs of some students.	4

The second item in this category was being expected to fulfil a number of different expectations from a variety of sources. This item also loaded on factor four - "student-related" - and has, therefore, been discussed previously.

The second category within this factor was concerned with having to deal with the welfare needs of parents and students. Two teachers commented on the former. Both suggested that this is not part of a teacher's job, and one discussed the absence of the skills necessary to advise effectively on welfare issues. Examples cited included marriage counselling, assisting parents to cope with their own children and overcoming parents' personal problems.

Four teachers discussed dealing with the welfare needs of students. One teacher suggested that much of this issue revolves around the social and emotional problems of students, which parents expect the teacher to solve. Another commented on the amount of time which this task takes, time in which something else could have been done. A third received no response when asking for guidance, and related this to a lack of availability of school psychologists due to government funding. The fourth

teacher gave an example of a student who continually arrives at school stinking of urine, occurrences about which the parents have done nothing.

Factor Seven: Industrial Action

The number of responses to the items in this factor is revealed in Table 8.9. Two items formed the basis of this factor: participating in inappropriate industrial action and the threat of industrial action. Seven teachers responded to the first of these items. One of these related this issue to the threat of industrial action. Three referred to the 1989 strike, from which two suggested that nothing was gained. Indeed, one stated that teachers had lost. Two commented about the emotional turmoil resulting from having to make a decision about whether or not to strike. One teacher distrusted the Union as much as the Ministry, and believed that the Union regarded teachers as numbers. Two of the teachers stated that they were opposed to striking because of the effects on children.

Table 8.9
Frequency of Responses to Potentially Stressful Items for Industrial Action (N=24)

Item	Frequency
8. Participating in inappropriate industrial action.	7
50. The threat of industrial action.	2

Two teachers discussed the threat of industrial action. One related this to the item on participating in inappropriate industrial action. The second teacher commented on having to decide whether or not to strike, and the impact on staff cohesion because of different staff attitudes towards industrial action.

Factor Eight: Employment Conditions

As shown in Table 8.10, the item in this factor which attracted the most responses was obtaining permanency, four teachers providing comments. Feelings of job insecurity were discussed by two teachers. One teacher did not wish to teach either in the country or in a priority school geographically distant from home. Another had already completed four years' country service, but would still have to teach in an outer metropolitan school to obtain permanency. Such a situation would be especially disruptive to this teacher because of having a daughter who has to attend a special school.

Table 8.10
Frequency of Responses to Potentially Stressful Items for Employment Conditions (N=24)

Item	Frequency
2. Having to teach classes containing more than one year level.	1
62. Obtaining permanency.	4
63. Difficulty in obtaining transfer from unhappy school situation.	1

One teacher discussed having to teach classes containing more than one year level, citing a year one/two as being the worst instance. However, any multi-year class was stated as causing problems.

The final item in this factor was difficulty in obtaining a transfer from an unhappy school. This evoked one response which suggested that this item was self-explanatory.

Items Not Loading on Any Factor

Seven items did not load on any of the eight extracted factors and the number of responses to these items is shown in Table 8.11. The first of these items was being confronted with frequent changes to the curriculum. Two teachers commented on the unsettling effects of such changes. Three teachers stated that a lack of support in the form of resources and in-service courses compounded the problem. The implementation of the new writing curriculum was cited as an example of this. Two teachers mentioned a lack of consultation over changes, and the lack of educational rationale for change. One other comment was that the changes are too quick and prevent consistent approaches from being developed.

Table 8.11
Frequency of Responses to Potentially Stressful Items Not Loading on Any Factor (N=24)

Item	Frequency
3. Being confronted with frequent changes to the curriculum.	5
19. Having to teach classes in which there are too many children.	3
20. The lack of relevance of the curriculum for the children I teach.	0
21. Starting school at the beginning of the year not feeling refreshed.	4
36. Having to teach subjects of which I have little knowledge.	1
42. Lack of assistance with the effective management of time.	3
51. Lack of useful in-service courses.	4

The second item was having to teach classes in which there are too many children. One teacher related this issue to the item on taking classes with a wide range of learning abilities. A second comment was that large classes posed difficulties in providing attention to individual students. A third teacher discussed the school population as being too large, which resulted in too many temporary classrooms, not enough playing areas,

losing specialist areas to ordinary classes and deterioration in the quality of the school grounds.

Starting school at the beginning of the year not feeling refreshed was the third non-loading item. All four teachers who responded to this item commented on the need to re-examine the timing or length of the holidays at the end of the school year. One suggested that the four-term year had resulted in greater pressure on work.

A lack of useful in-service courses also attracted responses from four teachers. All four commented on the need for more in-service courses, particularly in relation to the introduction of new syllabi. One junior primary teacher was of the opinion that too many in-service courses did not cater for this part of the primary school.

The fifth item was having to teach subjects of which the teacher had little knowledge. The one teacher who discussed this item indicated a preference for a team teaching approach, which would allow specialisation in particular subjects.

The final two non-loading items, the lack of relevance of the curriculum for students and lack of assistance with the effective management of time, attracted no responses.

The Incremental Nature of Normally Non-Stressful Events

Two teachers stated that they were not stressed by the cumulative effects of normally non-stressful events in a short period of time. One said that having a passive nature assisted in this, while the other said he/she was in a position in which there is constant movement and interruption. The latter teacher was inured to situations which may have caused stress to fellow colleagues.

The remaining twenty-two teachers suggested that some events which in themselves were not stressful could, if they occurred with great frequency in a relatively short period of time, cause extreme stress.

Assessment of Questionnaire

Every teacher interviewed was positive about the questionnaire. Many commented on the ease of completion and thoroughness of the potential stressors listed in section four of the questionnaire. Several mentioned that the instructions were very clear.

Two interesting comments included that many teachers could not believe the number of items which they rated four or five, and that the Ministry was unlikely to take the results of this research seriously.

Observations During the Interviews

Throughout the interviews the present researcher made a number of observations. These observations can be summarised into five main statements.

First, teachers were very willing to talk about the stressful aspects of their work. Sometimes they had to be encouraged to change from discussing one particular stressor so that other events could be examined.

Second, many of the teachers interviewed could see a therapeutic effect of the interview. They were pleased to be able to talk to someone about their work-related problems, which appeared to make them feel better.

A third observation was that many teachers were pleased to discover that they were not alone. Some had thought that particular stressors applied only to them and, therefore, they were at fault. The knowledge that other teachers shared the same problems came as a relief.

Fourth, most of the interviewees could have extended the interview beyond the allotted time. However, other commitments prevented such an extension of time.

The final observation was that while the items on multiple role expectations and role conflict were not mentioned by all interviewees, both of these aspects were apparent in many of the discussed situations.

Comments by Principals

Discussions with principals during the distribution and collection of the questionnaires revealed quite a strong anti-Union and anti-Ministry attitude. Principals were also of the opinion that there was a large number of teachers who had the same attitudes. The reasons given for this were lack of Union support and a non-caring employer. All of the

principals also perceived themselves to be suffering from considerable stress.

A sizeable number of teachers did not want to participate in the present study (as exemplified by the effective return rate), the entire staff of a number of schools being in this category. Reasons for refusal to participate included:

(a) teachers had already completed a number of questionnaires and did not want to respond to any more, particularly as little or no feedback had been received;
(b) apathy (could not be bothered);
(c) could not see the point in participating because nothing would result from the research;
(d) lack of time - too busy;
(e) one staff group had not responded to the request to complete the questionnaire, from which the principal had concluded that they were not interested; and
(f) the request to participate in the research was not put to the staff because the administrative team felt that the staff were too busy.

Other comments made by the principals included:

(a) a lack of loyalty has been exhibited by the Ministry;
(b) the Union is weak;
(c) the Western Australian Primary Principals' Association is weak;
(d) the education system has become politicised;
(e) there has been a noticeable increase in central control by the Ministry;
(f) the actions of the Ministry in recent years has alienated teachers, and

this alienation will probably never be overcome;

(g) the Ministry is an uncaring employer which shows disregard and disrespect for its employees;

(h) in ten years there will be no educational leadership in the schools: principals will be political appointees; and

(i) the union is pathetic, the executive is too "political" and interested only in the "numbers' game".

Comments From the Questionnaires

Written comments which appeared on some questionnaires were of two main types. First, those which were written randomly throughout the questionnaire. Second, comments relating specifically to particular items in section four.

The comments within the first category addressed a range of topics. One teacher believed that the Union does not act irresponsibly, but according to the demands and needs of the majority of members. This teacher also stated that most primary teachers believe in taking industrial action, but are too frightened of any consequences to participate. One other comment made by the same person was that the Union does not neglect members, but should improve relations with the Ministry.

The second category of comments, those which related to items listed in section four, are presented in Table 8.12.

Table 8.12

Written Comments on Items in Section Four of the Questionnaire

Item	Comment
4.6 Having to deal with the welfare needs of parents.	Five crosses.
4.9 Being expected to fulfil a number of different expectations from a variety of sources.	5+
4.10 Failure of the Ministry of Education to provide adequate resources.	5+
4.13 Not having enough time during the school-day for marking and preparation.	Primary teachers should have the same D.O.T.T. time as high school teachers and pre-primary teachers.
4.22 Lack of appreciation of teachers by the general community.	This is why I have decided to commence a B. Laws next year. Despite an outstanding academic record, people treat me as if I have an I.Q. of 26.
4.23 Having to deal with the welfare needs of some students.	Five crosses.
4.25 Poor Union-Ministry relations.	The relations between the Union and the Ministry are far too good. At times I wonder which group the Union benefits, the teachers they are employed to represent or the Ministry, i.e. the 1989 wages claim - two days' strike for the initial deal offered.
4.27 Having students in the class who are continually disobedient.	Five crosses. Only through low I.Q. and inappropriate placement, i.e. special students are now integrated.

Table 8.12 (continued)

Item	Comment
4.32 Pressure on time due to increasing workloads.	Five crosses.
4.34 Inadequate communication between the Ministry of Education and classroom teachers.	Too much useless junk to read. Non-existent. "Extreme stress" triple circled.
4.38 The hot weather at the beginning of the school year.	"Extreme Stress" triple circled. Could be changed to start later - alter the Christmas holidays.
4.39 Having to undertake duties other than teaching.	Yard duty, parent conferences. Demeaning jobs such as cutting out forty hearts for a creative writing lesson.
4.40 Lack of support from the Union.	They (the Union) have decided to for equal pay for three- and four-year trained teachers. No incentive for academics.
4.41 Having little influence over political decisions in relation to education.	"Extreme Stress" triple circled. Very significant - is our opinion ever required? (this questionnaire is a good start).
4.64 Too many interruptions to the teaching program due to extra-curricular activities.	"Extreme Stress" triple circled.
4.65 Lack of practical support from the school psychologist.	It was not very available and with the recent cuts it is virtually non-existent. We need individual sessions.

Summary

Chapter eight discussed the qualitative information obtained throughout the present study. Such information was derived from interviews with teachers, observations made by the present researcher, discussions with principals of the schools which participated in the study and written comments made by teachers on the questionnaires.

The structure of each interview was recapitulated briefly, with this forming the framework for the discussion of the obtained information. Such information included socio-biographical characteristics, together with responses to the single-item questions on occupational satisfaction and stress, perceptions of the attitudes of the Ministry of Education and/or the Government of Western Australia towards teachers, comments on items listed in section four of the questionnaire which each interviewee rated as being either "very" or "extremely" stressful, perceptions of the effects of the relatively rapid occurrence of normally non-stressful events on stress, and an opinion about the questionnaire.

Following the outline of the interview format, the information obtained from the interviews was then discussed. The socio-biographical characteristics of the interviewees were outlined, most teachers being full-time, permanent female teachers, aged between twenty-six and fifty, and with less than twenty years' experience. In addition, their responses to the single-item questions on occupational satisfaction and stress were outlined, as was the time taken for each interview.

In relation to the question on the perceived attitude of the Ministry of Education and/or the Government of Western Australia the overwhelming

response was that teachers considered that they were not valued by these institutions. Examples which vindicated the opinions of teachers about the Ministry and Government were presented and quotations from interviews which reflected the perceptions of the teachers interviewed were tabulated.

The section which discussed the interviewees' comments on the potentially stressful items was based on a framework derived from the stress factors obtained from the factor analysis procedure outlined in Chapter VI. Within each factor a number of themes was derived and these formed the structure for the examination of the responses to the items listed in section four of the questionnaire. In addition, tables which contained frequency counts of the number of responses to the items in each factor were presented.

Responses to the items relating to the factor "school-level concerns" were discussed in three themes, namely, the role of the principal, staff-related issues and dislike of the school. One theme , the Ministry of Education, dominated the factor "issues external to the school". The other two themes in this factor were concerned with lack of appreciation or support from groups outside the school and, politics and education. The third factor, "time", contained two themes. The first of these was spending time on duties other than teaching, while the second related specifically to teaching duties. The fourth factor pertained to "student-related" issues and included two themes, items relating directly and indirectly to students.

Three themes were used as the framework to discuss the responses to items which comprised the fifth stress factor, "interference with classroom activities". These themes were interruptions to the teaching program, lack

of support from sources outside the classroom and pressures on time due to deadlines. "Role expectations", the sixth factor, included themes which covered items on expectations being placed on teachers from sources outside the school, and having to deal with the welfare needs of parents and students. The seventh factor "industrial action" and the eighth factor "employment conditions" each contained a single theme exemplified by the factor name. In addition, comments made on items which did not load on any of the eight factors were also reviewed.

The great majority of teachers interviewed agreed that the occurrence of a relatively large number of normally non-stressful events, in a short period of time, contributed to feelings of stress.

When asked to comment about the questionnaire every teacher interviewed responded in a positive manner, many being impressed by the thoroughness of the list of potentially stressful items, clarity of instructions and ease of completion.

The final three sections of this chapter included discussions on observations made by the present researcher during the interviews; comments made by principals during the distribution and collection of the questionnaire; and a review of written comments which appeared on the questionnaires. Five main statements emerged as a result of observations made during the interviews. These included a willingness of teachers to discuss the stressful aspects of their occupation, the therapeutic effect of being able to discuss the stress experienced, teachers feeling pleased that they were not alone in their perception of stressors, a desirability on the part of some teachers to extend the

interview time and, the influence of role expectations and role conflict in many stressful situations.

Comments emanating from principals centred on relatively strong anti-Union and anti-Ministry feelings among them. Furthermore, many principals believed that this attitude extended to classroom teachers. The final section, which reviewed written comments made on the questionnaires, indicated that these related to a range of items in section four of the questionnaire.

Chapter VIII has completed the analysis of the data collected during the present study. The final chapter presents a summary and discusses the implications of the findings of the current investigation. In addition, recommendations for further research are suggested.

CHAPTER IX

REVIEW

Introduction

The present study emerged due to a dearth of research into teacher stress in Western Australia. Prior to the current investigation only two studies (State School Teachers' Union of Western Australia, 1982; Van Schoubroeck and Tuetteman, 1986) had attempted a detailed examination of occupational stress among teachers. Since the completion of the latter study, the Western Australian Government education system has undergone significant changes. Among the most noticeable of these changes have been the restructuring of the former Education Department into a Ministry, the introduction of numerous new curricula and an increase in the pastoral care role of teachers (Hyde, 1990). Furthermore, comments made by the former chief executive officer of the Ministry of Education (Nadebaum, 1990a, 1990b) indicated that aspects of the Ministry's personnel management policies have been less than effective. Therefore, this study presented an opportunity to update knowledge about teacher stress in Western Australia following extensive changes to the characteristics of the Government education system.

Essentially, this study was based upon a number of research objectives which included:

(1) the development of an instrument to identify the prevalence and sources of perceived occupational stress among Western Australian primary school teachers;

(2) to determine the prevalence and sources of perceived occupational stress among Western Australian primary school teachers;

(3) to investigate any differences in the perceptions of stress and stressors when categorised by the socio-biographical characteristics of teachers;

(4) to investigate the relationship between occupational stress and satisfaction;

(5) to investigate the adequacy and effectiveness of a causal model of teacher stress.

The sample for the study was derived from Western Australian Government metropolitan primary school teachers in non-priority schools with non-teaching principals.

The purpose of this chapter is to review the results of the present study, and, in doing so, explore the possible implications of this research. In addition, recommendations for further research will be discussed.

Summary and Implications of Findings

The quantitative data used in the present study were obtained from the instrument developed in accordance with the first research objective. This instrument was derived from a review of previous research, interviews with teachers and consideration of contextual influences on Government schools since 1984. The research instrument, or questionnaire, comprised a number of sections designed to obtain information on the socio-biographical characteristics of the respondents, the perceived levels of occupational stress and satisfaction, the sources of occupational stress; attitude towards teaching and the willingness to be interviewed.

As discussed in Chapter V, the use of self-report instruments has been well documented in the literature and has proven to be a reliable method of data collection.

Coefficients of reliability (Cronbach's alpha) were calculated for the multi-item scales used in the questionnaire. With three exceptions, each of these coefficients of reliability showed a high degree of internal consistency. In relation to the first of these exceptions, the Aspects of Job Satisfaction Scale (0.67), a review of the composition of the scale was recommended. The other two exceptions, factor seven "industrial action" (0.61) and factor eight (0.61) "employment conditions", contained only two and three items respectively, which partially explains their relatively low coefficients of reliability.

The multi-item scales used to assess attitude towards teaching, occupational stress and satisfaction were each subjected to factor analysis procedures. A principal component analysis and varimax rotation were performed on the data obtained by the semantic differential attitude scale. From these procedures two factors emerged, one of which indicated the impact of teaching on the individual, while the other showed individuals' judgements on the value or worth of their occupation.

The Felt Effects Scale was subjected to a principal component analysis which revealed the existence of one factor. Such a finding confirmed the unidimensional nature of the scale. The result of the principal component analysis applied to the Aspects of Job Satisfaction Scale indicated that item three had a weak factor loading. This item was omitted in further analytical procedures.

The scales used to measure stress and satisfaction were also subjected to correlational analyses to determine the degree of predictability of one measure on the other. The resulting coefficients, between the single-item question on satisfaction and the Aspects of Job Satisfaction Scale and the single-item question on stress and the Felt Effects Scale, both revealed that the responses of one measure of each variable were reflected to a similar degree in the other measure. This suggests that the single-item questions on occupational stress and satisfaction can be used with confidence. However, further research on the relationship between the single-item question and the Felt Effects Scale is necessary, particularly in view of the average correlation (0.57) between these measures found in this study. Similarly, further research should also be undertaken into the use of the single-item question to measure job satisfaction.

Two hundred and sixty-four primary school teachers, representing an effective return rate of thirty-five per cent, employed in the Western Australian Government education system completed the questionnaire in second term, 1990. These schools were located in the metropolitan area of Perth, received no priority funding and had non-teaching principals. In addition to the quantitative data, twenty-four teachers were interviewed to explore stressful situations in more detail. Furthermore, these interviews also elicited information about the perceptions which teachers had of the attitude of the Ministry of Education and/or the Government of Western Australia towards them.

Responses to the single-item question on occupational stress revealed that almost thirty-two per cent of the respondents rated teaching as being either very or extremely stressful. This figure was similar to results obtained in previous research. However, such research was conducted

outside Western Australia which means that the figure obtained by the current study is unique for this geographical location. The analysis of responses to the Felt Effects Scale indicated that almost forty-nine per cent of the respondents could be described as suffering from either serious or very serious stress levels. This result is unique in that the Felt Effects Scale has not been used in previous research which has investigated teacher stress. The only other study which attempted to ascertain the prevalence of stress among Western Australian school teachers was conducted by Van Schoubroeck and Tuetteman (1986). They used the General Health Questionnaire and found that eighteen per cent of primary teachers had symptoms of severe psychological distress. Given the different instruments used in the respective studies, a direct comparison is difficult to make. Further research into the comparative use of these two instruments could prove to be a useful endeavour.

Chi-square analyses were undertaken to determine whether significant differences occurred in the number of responses to both the single-item question on occupational stress and the Felt Effects Scale. Two significant differences emerged in relation to the single-item question. The first of these differences concerned length of teaching experience in which, by comparison with their more experienced colleagues, significantly more teachers of less than ten years experience perceived their job to be either very or extremely stressful. In addition, significantly more teachers with twenty years or less experience found teaching to be a moderately stressful experience. The second difference related to category of employment, with significantly more permanent teachers rating their occupation to be either very or extremely stressful. Furthermore, a significantly larger number of temporary teachers perceived their occupation to be moderately stressful.

Within the literature only Van Schoubroeck and Tuetteman (1986) had used chi-square analysis in examining the number of responses in stress level categories. In relation to sex, age and level of qualifications of the teacher surveyed, no significant differences were discerned. Other socio-biographical characteristics which were investigated in the present study were not examined by Van Schoubroeck and Tuetteman (1986). Therefore, the findings of the current research are unique within the field of teacher stress research discussed in the literature review.

Although only two significant differences emerged in relation to the number of responses to perceptions of stress and stressors when categorised by socio-biographical characteristics in the present study, this is not inconsistent within teacher stress theory. As discussed in Chapter IV, models of teacher stress have suggested that socio-biographical characteristics play a role in the stress process. However, the literature reviewed in Chapter III revealed that such a role can be inconsistent. Thus, not only are the findings of the current investigation unique when compared to the research reviewed in Chapter III, but they are also consistent with both teacher stress theory and the outcomes of previous studies reported in the literature. Furthermore, these findings have contributed to the establishment of a socio-biographical profile of teachers in Western Australian Government metropolitan primary schools.

The extent of occupational stress among the Western Australian primary school teachers who participated in the present study is cause for concern. Teachers who are working under considerable stress are undoubtedly affected detrimentally in the way in which they can effectively and efficiently discharge their duties. Given that one of the aims of

corporate management is to ensure the existence of an effective and efficient workforce, the Ministry of Education should consider the implementation of strategies to reduce the amount of occupational stress which teachers experience. The basis for such strategies can be obtained from an examination of the perceived causes of such stress, while the results of the chi-square analyses indicates the likely broad target groups.

The sources of teacher stress were ascertained by analysing the responses to section four of the questionnaire. Initially, the means and standard deviations of the responses to each item were examined. The data were then subjected to a principal component analysis and varimax rotation. Eight factors, accounting for over thirty-five per cent of the variance, were extracted. The eight factors were named "school-level concerns", "issues external to the school", "time", "student-related", "interference with classroom activities", "role expectations", "industrial action" and "employment conditions". Various themes within each factor were also discussed.

Essentially, the stress factors identified in the present study were similar to those discussed in previous research, both in Australia and overseas. However, one factor, "industrial action", had not been isolated in previous research. Further examination of this issue suggested that the occurrence of industrial action in the period prior to the completion of the questionnaire may have contributed to the emergence of this factor.

In addition to sources of stress being subjected to statistical analyses, interviews were conducted with twenty-four teachers. The basic aim of these interviews was to explore the nature of these stressors in more

detail. Other information obtained during the interviews revealed that teachers perceived the Ministry of Education and/or the Government of Western Australia to have a poor attitude towards them, and that the occurrence of a relatively large number of normally non-stressful events in a short period of time can lead to feelings of stress.

The information obtained on the sources of stress, from both quantitative and qualitative sources, revealed that many of these causes are beyond the immediate control of classroom teachers. Such information not only confirms the comments made by De Frank and Stroup (1986) on this issue, but suggests that teachers have a good reason for externalising the blame for occupational stress, as reported by McCormick and Solman (1990b). This indicates that management at all levels in the Government education system should ensure the implementation of appropriate policies to either reduce or eliminate sources of stress. Furthermore, comments made during the interviews appear to show that the Ministry of Education has lost the confidence of teachers and should take genuine steps to rectify this situation.

To determine the existence of any significant differences in the perceptions of stress levels and stress factors when categorised by the socio-biographical characteristics of the respondents, the data were subjected to one-way analyses of variance and t-tests. The results of these analyses, as summarised in Table 9.1, revealed that "time" was most stressful to teachers who were female or permanent ; "interference with classroom activities" caused more stress for teachers who were female, taught years K-3 or had been teaching for over twenty years; female teachers were more stressed by "industrial action"; "employment conditions" were more stressful for teachers who were female, taught

years K-3, were in temporary positions, were aged less than forty-five years, or had been teaching for less than ten years; teachers who were full time, permanent or with more than thirty years experience were more stressed by "issues external to the school"; teachers aged less than forty-five years were more stressed by "school-level concerns"; teachers of years K-3 scored higher on the Felt Effects Scale; and, temporary teachers scored higher on the single-item question on occupational stress.

Table 9.1
Significant Differences in the Perceptions of Stress and Stressors When Categorised by Socio-Biographical Characteristics

Socio-Biographical Characteristic	Stress/Stressor	prob.
Female	time	<.05
Female	interference with classroom activities	<.01
Female	industrial action	<.01
Female	employment conditions	<.01
Year level taught	interference with classroom activities	<.05
Year level taught	employment conditions	<.05
Year level taught	stress level (Felt Effects Scale)	<.05
Type of employment	external to the school	<.05
Category of employment	stress level (single-item question)	<.05
Category of employment	external to the school	<.01
Category of employment	time	<.05
Category of employment	employment conditions	<.01
Age (less than 45 years)	school-level concerns	<.01
Age (less than 45 years)	employment conditions	<.01
Length of teaching experience (over 21 years)	external to the school	<.01
Length of teaching experience (over 21years)	interference with classroom activities	<.05
Length of teaching experience (less than 10 years)	employment conditions	<.01

While all these findings were unique for Western Australian research, some had not been previously reported in studies conducted outside of

this location. Included among such discoveries were female teachers being more stressed by "interference with classroom activities", "industrial action" and "employment conditions"; differences found for primary school teachers based on year level taught and type of employment; teachers aged over forty-five being less stressed by "employment conditions"; the impact of "interference with classroom activities" on long-serving teachers; and "employment conditions" causing more stress for teachers with less than ten years' experience.

Other findings of the present study, in relation to socio-biographical characteristics of teachers, both contrasted with and were similar to the results of previous research. Included in the former were the lack of significant differences in the ratings of "student-related" items and "time". In addition, differences attributed to type of employment and permanent teachers experiencing more occupational stress proved to be different when compared with previous investigations. In the case of the latter, examples included lack of significant differences in the rating of stress levels when categorised by sex and level of qualification. Other instances were permanent teachers reporting more stress from "issues external to the school" and "time"; older teachers being less stressed by "school-level concerns"; and the more experienced teachers encountering greater stress from "issues external to the school".

Overall, the results obtained by the present study in relation to perceptions of stress and stressors when categorised by socio-biographical characteristics of teachers are consistent with both teacher stress theory and previous research. As has been discussed previously in this chapter, models of teacher stress postulate that socio-biographical characteristics of teachers play a role in the teacher stress process, while

previous research has found that such a role is inconsistent. The findings of the present study have revealed the influence of socio-biographical characteristics on the perceptions of stress and stressors for a particular sample of teachers. Such findings contribute knowledge about the profile of teachers in Western Australian Government metropolitan primary schools.

Regardless of the uniqueness or otherwise of the findings which emerged from the current investigation in relation to sources of stress, more knowledge has been gained about teacher occupational stress. The present study has demonstrated that teacher stress is a complex issue which lacks an overall generic pattern. The absence of such a pattern inhibits the adoption of a "blanket approach" to deal effectively with the causes of teacher stress. Consequently, if the findings of this investigation are to be considered within the implementation of stress management policies, or teacher training courses, the context of the study must be considered. Policies designed to reduce or eliminate the stressors reported by the teachers who completed the questionnaire may not be appropriate beyond the sample characteristics described previously and in Chapter V.

After examining the perceived sources of teacher stress, the present study investigated the relationship between occupational stress, satisfaction and attitude towards teaching. Correlational analyses were undertaken to determine the relationships between these variables. Three calculations were performed, with the first two coefficients revealing that teachers who were satisfied with their occupation tended to have a positive attitude towards teaching and that teachers who perceived their job to be stressful had a negative attitude towards teaching. These two

findings were co-incidental to the objectives of the present study. Therefore, previous research into these issues had not been reviewed. The third coefficient showed that teachers who reported their job to be stressful were also dissatisfied with teaching. Such a relationship had been reported in previous Australasian research, but differed from results obtained by Mykletun (1984) and Smilansky (1984) who found the co-existence of both stress and satisfaction among teachers.

The findings of the present study suggest that policies aimed at reducing stress may lead to an increase in job satisfaction. Furthermore, an investigation into the factors which contribute to job satisfaction, combined with the implementation of policies to boost such factors, may lead to a decrease of occupational stress among teachers. This knowledge gives administrators at all levels in the Western Australian Government education system alternatives to consider when approaching the issue of teacher stress.

In addition to implications which related directly to the research objectives, one other interesting issue, namely, the low effective return rate of this study's questionnaires, emerged. If a low effective return rate of questionnaires proves to be the norm in research which examines school-based topics, then researchers will need to consider the adoption of appropriate strategies to counter this occurrence. Possibly, the strategies used in the present study, as described in Chapter V, which emphasised face-to-face research processes may provide a model for future researchers. Comments made by teachers during the interviews also indicated a preference for questionnaires in which little writing is required.

Recommendations for Further Research

As a result of the present investigation into the prevalence and sources of occupational stress among teachers a number of areas in which further research could be pursued were discovered. Factors such as geographical location of the school, type of school and type of teacher were discussed in Chapter V as having an influence on both the prevalence and sources of teacher stress. This information, combined with the dearth of research into teacher stress in Western Australia, provide future researchers with areas to investigate. Accordingly, such studies, in Western Australia could examine the prevalence and sources of stress among teachers in different types of schools, for example, high schools, geographically isolated schools, schools in country towns, special schools, district high schools, schools which receive priority funding and primary schools which have teaching principals. Furthermore, the prevalence and sources of stress among different types of teachers: for example, school-level administrators, special education teachers, teachers with administrative responsibilities and specialist teachers, could be investigated. Consideration could also be given to conducting longitudinal studies of occupational stress among teachers.

In addition to quantitative studies, the gathering of information by qualitative methodologies ought to be undertaken. The richness of information obtained by qualitative means, as indicated in the present study, provides further insights into teacher occupational stress. Within such research, the reasons why certain situations cause stress could be explored. Given the lack of qualitative studies into teacher stress in Western Australia, a qualitative research approach is desirable to

increase knowledge about occupational stress among teachers in this geographical location.

Within any further studies on the prevalence and sources of stress among teachers, the influence of socio-biographical characteristics requires more research. This is particularly relevant to Western Australia, but will also contribute to improving knowledge about teacher stress in general. Additional socio-biographical characteristics, such as the socio-economic area of domicile of the teacher and location of the school, could be included in future studies. In particular, the influence of type and category of employment on perceptions of stress and stressors requires further research.

The use of causal modelling in studies of teacher stress is an area in which further research should be undertaken. The present study used this technique, but further research is required. Such research should occur both in Western Australia and other geographical locations.

The present study utilised two methods to ascertain the prevalence of occupational stress among teachers. These measures, a single-item question and the Felt Effects Scale, present several opportunities for further research. First, studies could be undertaken in which the ratings obtained by one measure could be related to those obtained by the other measure. Such a study has been undertaken previously in relation to stress among nurses (Jongeling, 1990). A similar study should be pursued in regard to stress among teachers. Second, the reliability and validity of each of these measures should be assessed continually. Third, the use of the Felt Effects Scale as an accurate measure of stress requires further investigation. Few studies have used this instrument, but

the ease with which the Felt effects Scale can be completed and analysed suggests an ideal method by which the prevalence of stress can be ascertained. Studies could also be undertaken which compare the single-item question on occupational stress, the Felt Effects Scale and the General Health Questionnaire.

Further studies into the relationship between teacher occupational stress and satisfaction would increase knowledge in this area. While the present study revealed that teachers who rated their job as being stressful tended to be dissatisfied, previous research had not always revealed this pattern. In Western Australia, the lack of research into the relationship between teacher stress and satisfaction is alarming and needs to be rectified.

In addition to examining the relationship between teacher stress and satisfaction, further research into the measurement of occupational satisfaction itself would be a useful undertaking. Such research could investigate the usefulness of the single-item question to determine the prevalence of teacher job satisfaction. In cases where there is a relationship between occupational satisfaction and stress, as outlined in the previous paragraph, the Ministry of Education would be able to approach the problem of teacher stress from two perspectives. Furthermore, the Aspects of Job Satisfaction Scale requires further investigation, particularly given that one of the items was omitted from analytical procedures in the present study.

The relationship between teacher stress and two other variables, namely attitude towards teaching and morale, present opportunities for further

research. Such studies would widen the knowledge base about teacher stress and assist in the understanding of this process.

The development, implementation and effectiveness of stress management policies is an area which presents excellent opportunities for further study. Given the extent of occupational stress among teachers, the issue of effective stress management techniques requires extensive study. The results of such research should provide education authorities with a useful base from which to implement system-wide stress management policies.

An area in which further research could provide some enlightening information is the impact of non-work stressors on teacher stress. Indeed, non-work stressors could be included in the variables used in research involving the use of causal modelling techniques. Such research would be of benefit to increasing the level of knowledge about teacher stress and could assist in the development of effective stress management policies.

Overall, the present study has revealed several areas in which further research could be pursued. Of particular importance is the need to increase the amount of quality research into teacher stress in Western Australia. In undertaking such research, future investigators may need to implement appropriate procedures to overcome the problem of low return rates. Reference to literature on undertaking survey research should prove to be a useful starting point. Cohen and Manion (1985), for example, provide ideas in regard to planning and implementing a survey. They discuss general aspects including the purpose of a survey, the survey population and available resources. Specific issues which these

authors examined included sampling, sample size, sample error, conducting postal surveys - including maximisation of the return rate, designing a self-completion questionnaire, and processing survey data.

While this type of literature may prove to yield some useful information, reference to studies on teacher stress which have enjoyed high return rates should also be undertaken. In regard to studies which have achieved return rates in excess of seventy per cent, four characteristics of the research methodology emerge. First among these characteristics is the fact that some researchers (Galloway et al., 1984b; Pettegrew and Wolf, 1982; Whiteman, Young and Fisher, 1984) visited the schools in which the inquiries were to be conducted to discuss the studies with the teachers concerned. The second characteristic was the successful use of postal surveys which incorporated follow-up reminders. Researchers who adopted this approach included Dewe (1986) and Foxworth and Karnes (1983). The use of a questionnaire containing less items than used in the present study represented the third characteristic. Examples of investigations in this respect were conducted by Abbey and Esposito (1985), Laughlin (1984), Manthei and Solman (1988) and Whiteman et al. (1984). Of interest is the fact that Laughlin (1984) and Manthei and Solman (1988) used essentially the same procedures to those used in the present study when making contact with the schools selected to participate in their investigations. The fourth characteristic was evident in research conducted by Pettegrew and Wolf (1982) and Whiteman et al. (1984). During these investigations teachers completed the questionnaires during regular staff meetings.

Future researchers who investigate teacher stress in Western Australia may wish to heed the information in the previous discussion. Adherence

to all, or some, of the above-mentioned methodological aspects may result in a return rate in excess of that obtained in the present study.

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APPENDIX ONE

QUALITATIVE META-ANALYSIS PROCEDURES

APPENDIX ONE
QUALITATIVE META-ANALYSIS

Introduction

Appendix one contains details of the procedures adopted for the qualitative meta-analysis of the literature which relates to teacher stress. This type of analysis was undertaken because an argument can be postulated that a discursive review is, on its own, a restricted way of presenting a variety of literature with different emphases, findings, foci, and research methodologies. Procedures for undertaking a quantitative meta-analysis are well documented (for example, Glass 1976; Glass et al., 1981). However, few systematic procedures, with a similar organisational power, have been devised for the accumulation and integration of the findings of a body of research which is non-experimental. The procedures adopted in the present research were based upon techniques, devised by Deschamp (1983) and Hyde (1985), for the aggregation of information about non-experimental research studies and their findings in a way which permits re-analysis of the data.

The qualitative meta-analysis attempts to overcome the high level of subjectivity, notwithstanding any attempts at categorisation, which appears to be the main disadvantage with discursive literature reviews. Although these reviews provide the reader with a substantial amount of information about each study, they are low on synthesising power. The element of synthesising power is considered important to case study reports, which attempt to provide a detailed description of the phenomena at the focus of the inquiry. However, when a body of literature is relatively large, and contains a variety of report modes, a comprehensive discursive

review becomes difficult. In the present research an appropriate compromise was reached in that a discursive and illustrative review of some of the literature was combined with a more detailed analysis of the total body of literature reviewed during the research process.

Glass et al. (1981) proposed techniques to undertaking a quantitative meta-analysis which involved a number of literature analysis techniques. One of these, directly relevant in qualitative meta-analysis, was the use of a coding schedule which had categories appropriate to a range of information about each study. The purpose of the coding exercise was to provide a method by which components of a study could be analysed according to pre-determined factors. The coding schedule included such factors as:

(1) year and style of publication;
(2) number, age and sex of subjects;
(3) treatment characteristics;
(4) design of the study;
(5) outcomes/findings;
(6) sample selection; and
(7) effect sizes.

(For example Glass, 1976; McGaw, 1980; and Glass et al., 1981).

In the present research, and based upon the schema developed by Deschamp (1983) and Hyde (1985), a decision was reached initially to base the coding schedule on the following variables:

(1) year and style of publication;

(2) geographical area of publication;

(3) type of study (e.g. case study, survey);

(4) sources of data;

(5) focus of the study; and

(6) findings of the study.

A number of comparisons are made possible by these factors. In the case of research studies being compared across time and geographical area of origin, an illustration of the amount of research undertaken in a particular area over time, at specific points during that period, and the location(s) of that research are revealed. The comparison of these factors with other individual factors, or combination of factors, will provide further in-sights into the research area which then can guide the interpretation of the summative data. Additionally, such an approach can reveal areas which have been overlooked by researchers, and suggest the investigation of areas where contradictions have appeared in the findings.

Despite the advantages which a quantitative meta-analysis would provide to a review of the literature it was discovered that, due to the nature of the present research and the literature reviewed, the initial coding schedule was deemed inappropriate to undertake such a procedure. Consequently, a decision was reached not to proceed with a quantitative meta-analysis, but to concentrate on a relatively exhaustive qualitative meta-analysis of the literature.

The qualitative meta-analysis initiated in the present research included a number of steps:

(1) delineating the area of research to be synthesised;
(2) identifying the research available;
(3) obtaining copies of the research identified;
(4) reading and summarising the research;
(5) developing a coding schedule;
(6) defining the criteria to be used in coding;
(7) coding the studies;
(8) designing tables to illustrate the data;
(9) tabulating the coded data;
(10) analysing the tables; and
(11) providing a written description of the results of the analysis.

The advantage of this approach is that it allowed the analysis of the wide range of research contained within the general area of teacher occupational stress, and goes beyond simply grouping the findings.

Delineation of the Area of Research to be Synthesised

The concepts of teacher stress and burnout were discussed in Chapter II. Essentially, teacher stress was examined in terms of teachers being unable to satisfactorily cope with the demands of the occupation. Teacher burnout was identified as the ultimate result of the inability to cope with the demands of the occupation.

Identifying the Available Research

The relevant research was undertaken from four sources. First, general sources such as: ERIC Documents; ERIC Current Index to Journals; and current journal indexes; were consulted. Second, a computer search of the literature was undertaken using the DIALOG Information Retrieval Service. The broad descriptors used to identify data sources included stress; stress variables; stressors; burnout; teachers; primary education; and elementary education. Third, references were obtained from bibliographies of research articles and texts. Fourth, references were used which had been identified in previous post-graduate research undertaken at Edith Cowan University.

Obtaining Copies of the Research to be Synthesised

The majority of the research literature were reported in journal articles. These articles were either read and summarised at the libraries of the various tertiary institutions in Western Australia, or photo-copies were obtained through the inter-library-loan service. A similar approach was used with conference papers and other types of documents, although in some cases copies of unpublished theses were obtained directly from the authors. Texts, which formed the major type of document in the theoretical literature, were either borrowed directly from the libraries at the different campuses of Edith Cowan University, obtained through reciprocal borrowing privileges with the other tertiary institutions in Western Australia, or borrowed through the inter-library-loan service.

Reading and Summarising the Research

Each article identified in the literature search was read and recorded in two card indices according to standard referencing format. A brief summary of each article was written on the reverse side of each card. The sets of cards were re-sorted according to the variables listed for the qualitative meta-analysis.

The Coding Schedule and the Criteria Used in Coding

In accordance with the objectives of the qualitative meta-analysis, and the delineated area of research (refer to Chapter III), the initial coding schedule made provision for the following information:

(1) author and date of publication;
(2) type of publication;
(3) geographical area of publication; and
(4) aspects of teacher stress related to the present research.

The Coding Procedure

The coding procedure involved re-sorting the set of cards according to the variables identified in the qualitative meta-analysis. The coded information was then entered into cumulative tables (see Chapter II).

The Design of Tables for the Illustration of Analytical Data

The presentation of the analytical data was based on two approaches. The first was determined by the desire to provide contextual and non-trivial information about the body of research against which the research findings could be considered. This information was organised into tables which illustrated the type and year of publication, country of origin, and research mode. As a contextual basis for the analysis of the research, these data were considered to provide an appropriate measure of "persuasiveness" of those findings. The degree of "persuasiveness" being contingent upon such factors as the age, geographical location, and scope of the research.

The second approach involved the synthesis of the findings according to the relevant aspects of the present research. The broad aspects identified as being relevant concerned information which could be classified within categories in relation to an analysis of research on stress among school teachers. The usefulness of this level of analysis is found within the indications which it provides about the trends in research foci, the deficits in these, and the consistency of findings over time and across geographical areas and education systems.

Construction of the Tables

The collation of the data from the coded records into descriptive tables involved the compilation of tallies for each table. These procedures can be undertaken either manually or by computer processing.

Analysis of the Area of Research

The information contained in the tables was supplemented by a written discussion (see Chapter II). The written discussion comprised summaries of the tables combined with appropriate analytical comments. Essentially, the total portrayal of the research literature was designed to be consistent with the objectives of the qualitative meta-analysis.

APPENDIX TWO

CORRESPONDENCE

7 Newington Place,
Kingsley 6026.

5 September, 1990.

Ms S. Zanetic,
Director,
Policies and Resources Division,
Ministry of Education,
151 Royal Street,
East Perth 6004.

Dear Ms Zanetic,

Over the next two or three years I aim to conduct research, as part of a doctoral program at the Western Australian College of Advanced Education, into teacher stress in Western Australia. I believe that in correspondence with you Dr Norm Hyde has mentioned briefly the nature of my research. Essentially, as a result of my study, I hope to develop a stress factor questionnaire for primary school teachers, use this questionnaire to determine the extent of stress among primary school teachers and to apply path analysis procedures to the obtained data to determine the components of stress.

The accomplishment of the aims of my research will necessitate surveying a number of primary school teachers. Confidentiality of data will be maintained throughout the study and no teacher will be required to involuntarily reveal their identity. I hope that the outcomes of the research will provide useful information on teacher stress in addition to the development of a reliable and easy-to-use teacher stress measuring instrument.

I would appreciate your support for this research, as I believe that this would facilitate the success of my endeavour. The results of the research should not only benefit me personally, but also assist in the Ministry's efforts to improve the standard of Government schools.

I have also written to the State School Teachers' Union and the Western Australian Primary Principals' Association seeking support for my project.

Yours sincerely,

Graeme Lock.

7 Newington Place,
Kingsley,
Western Australia 6026.

5 September, 1990.

Mr E. Harken,
President,
State School Teachers, Union
of Western Australia,
150 Adelaide Terrace,
Perth 6000.

Dear Mr Harken,

Over the next two or three years I aim to conduct research, as part of a doctoral program at the Western Australian College of Advanced Education, into teacher stress in Western Australia. Essentially, as a result of my study, I hope to develop a stress factor questionnaire for primary school teachers, use this questionnaire to determine the extent of stress among primary school teachers and to apply path analysis procedures to the obtained data to determine the components of stress.

The accomplishment of the aims of my research will necessitate surveying a number of primary school teachers. Confidentiality of data will be maintained throughout the study and no teacher will be required to involuntarily reveal their identity. I hope that the outcomes of the research will provide useful information on teacher stress in addition to the development of a reliable and easy-to-use teacher stress measuring instrument.

I would appreciate your support for this research, as I believe that this would facilitate the success of my endeavour. As a former State school teacher and member of the Union I am aware of the importance of

obtaining support from the Union executive for research projects such as the one which I have outlined. The results of the research should not only benefit me personally, but also assist the Union in its efforts to improve both the working conditions of its members and the quality of education in this State. I would be happy to discuss my research at any convenient time.

I have also written to the Ministry of Education and the Western Australian Primary Principals' Association seeking support for my project.

Yours sincerely,

Graeme Lock.

7 Newington Place,
Kingsley,
Western Australia 6026.

5 September, 1990.

Mr M. Berson,
President,
Western Australian Primary
Principals' Association,
c/- Ministry of Education,
150 Royal Street,
East Perth 6004.

Dear Mr Berson,

Over the next two or three years I aim to conduct research, as part of a doctoral program at the Western Australian College of Advanced Education, into teacher stress in Western Australia. Essentially, as a result of my study, I hope to develop a stress factor questionnaire for primary school teachers, use this questionnaire to determine the extent of stress among primary school teachers and to apply path analysis procedures to the obtained data to determine the components of stress.

The accomplishment of the aims of my research will necessitate surveying a number of primary school teachers. Confidentiality of data will be maintained throughout the study and no teacher will be required to involuntarily reveal their identity. I hope that the outcomes of the research will provide useful information on teacher stress in addition to the development of a reliable and easy-to-use teacher stress measuring instrument.

I would appreciate your support for this research, as I believe that this would facilitate the success of my endeavour. The results of the research

should enable principals to implement effective policies to counter stress, thereby improving their school environment. In addition they will have access to a stress measuring instrument which will be convenient to implement.

I have also written to the Ministry of Education and the State School Teachers' Union seeking support for my project.

Yours sincerely,

Graeme Lock.

7 Newington Place,
Kingsley 6026.

18 February, 1991.

The Principal,
Wanneroo Primary School,
P.O. Box 29 (Wanneroo Road),
Wanneroo 6065.

Re: Permission to conduct research in your school.

Dear Principal,

The Ministry of Education and the State School Teachers' Union of Western Australia have given their support to a research project on

> "Levels and sources of stress experienced by primary school teachers in Western Australian Government schools."

This project forms part of my PhD studies at Edith Cowan University.

This letter seeks your approval and support to approach your staff to participate in the research study. Discussions with principals and staff at other schools have indicated that there may be both an anti-Union and anti-Ministry attitude among some teachers and that, given the support of these organisations for this research project, this may influence their decision to participate in the study. In bringing my request to the attention of your staff please indicate to them that this survey provides teachers with an opportunity to express such dissatisfaction.

If the response of some, or all, of your staff is positive, I will deliver the questionnaires to you during the first two weeks of second term. The questionnaires should be completed by the end of the fifth week of this term. To ensure a maximum return rate, and to prevent any undue intrusion into your staff's time, I would appreciate, if possible, your willingness to allocate part of a staff meeting or a pupil-free day for the completion of the survey instrument. Upon completion of the survey I will collect the questionnaires from you at a time to be arranged.

The results of the survey will be made available to both the Ministry of Education and the State School Teachers' Union of Western Australia. Should you and your staff also wish to receive a copy of the results, I would be delighted to make this available.

For your information i have included a copy of the questionnaire from which the data will be collected. I will telephone you to obtain an informal reply to my request within two weeks of you having received this letter.

Thanking you in anticipation.

Yours sincerely,

Graeme Lock.

PRIMARY TEACHER OCCUPATIONAL STRESS QUESTIONNAIRE

INSTRUCTIONS TO PRINCIPALS

1. Please distribute a copy of the questionnaire to each member of your staff and ask them to return the completed copy in an enclosed envelope to you.

2. Some staff may have indicated a willingness to be interviewed. These individuals will have placed a separate sheet of paper from the questionnaire in a smaller envelope. These smaller envelopes should be placed in the large envelope labelled for this purpose.

3. I will collect the completed questionnaires and interview sheets at a time convenient to you.

Thank you for your co-operation.

Graeme Lock.

7 Newington Place,
Kingsley 6026.

Telephone: 409-8137.

Dear

Enclosed please find a copy of the transcript of the recent interview which you gave on teacher stress. If you wish to make any changes please let me know.

Once again I would like to express my appreciation for your willingness to participate in my research.

Yours sincerely,

Graeme Lock.

298/90

B Carroll

Ministry of Education
151 Royal Street East Perth Western Australia 6004
telephone (09) 420 4111
telegrams EDWA Perth
telex EDHOWA AA93178
fax (09) 420 5005

Mr G Lock
7 Newington Place
KINGSLEY WA 6026

Dear Mr Lock

Thank you for your letter of 5 September 1990 regarding your intention to conduct research in Government schools, which has been referred to me by Ms Zanetic for response.

Applications to undertake research in Government schools are sighted and acknowledged by the Ministry of Education. Approval to proceed with the research proposal is given on the understanding that the final decision resides with the principal of each school at which the research is proposed and, in your proposal, of each individual teacher involved.

Given the potential value of your research, I do not imagine that this will pose any difficulty.

Yours sincerely

[redacted]

B PARKIN
MANAGER [EXECUTIVE SUPPORT UNIT]
SCHOOLS OPERATIONS DIVISION

28 September 1990

STATE SCHOOL TEACHERS' UNION OF W.A. (inc.)

150-152 ADELAIDE TERRACE,
EAST PERTH, WESTERN AUSTRALIA 6004
P O BOX 6140, EAST PERTH W.A 6004
Inwats. 008 199 073 Viatel. 922 119610
Telephone (09) 325 5311 Fax (09) 221 2394
General Secretary P Quinn

Your Ref

Our Ref: E.52/AC.2128
452 (Doc 16897)
HOULBROOK:jh

23 November, 1990

Mr Graeme Lock
7 Newington Place
KINGSLEY WA 6026

Dear Graeme,

I am pleased to inform you that your proposals regarding your research into teacher stress have been supported by the SSTU Executive.

Please don't hesitate to contact us if you require any further discussions/comments from the Union.

Good luck with your project.

Yours sincerely,

[redacted]

P QUINN
GENERAL SECRETARY

EDITH COWAN UNIVERSITY
PERTH WESTERN AUSTRALIA
CLAREMONT CAMPUS

Goldsworthy Road Claremont
Western Australia 6010
Telephone (09) 383 0333
Facsimile (09) 383 1762

3 May 1991

Mr Graeme Lock
7 Newington Place
Kingsley WA 6026

Dear Graeme

Members of the Committee for the Conduct of Ethical Research have cleared your research proposal for implementation. The Committee will formally ratify the decision at its next meeting on 24 May. Meanwhile you are free to proceed with your project.

The Committee extends to you its best wishes for a successful project.

Yours sincerely

[redacted]

Eric N Graham
Executive Officer
Committee for the Conduct of Ethical Research

CC Dr N Hyde
Dr L King
Dr M Harvey

NORANDA PRIMARY SCHOOL

Walmsley Drive,
Noranda 6062
Telephone 275 1833

May 17th, 1991

Mr Graeme Lock
7 Newington Place
KINGSLEY 6026

Dear Graeme,

Thank you for your letter requesting permission to conduct research in my school.

I have discussed the contents of your letter with my staff during our information session and have to inform you that we do not wish to be involved in your survey.

May I take this opportunity of wishing you well with your survey and good luck for the future.

Yours sincerely,

[redacted]

Allan Panzich
PRINCIPAL

WARWICK PRIMARY SCHOOL

ELLERSDALE AVENUE, WARWICK, W.A. 6024
TELEPHONE: (09) 447 6070

6th August 1991

Mr G Lock
7 Newington Place
KINGSLEY 6026

Dear Graeme

In response to your request for permission to conduct research into levels of teacher stress I regret to advise that the Warwick teachers are unwilling to participate because of the recent survey undertaken by the Ministry and several other surveys recently conducted.

Yours faithfully

[redacted]

Malcolm Humphreys
Principal

APPENDIX THREE

RESEARCH INSTRUMENT

PRIMARY TEACHER OCCUPATIONAL STRESS QUESTIONNAIRE

PRIMARY TEACHER OCCUPATIONAL STRESS QUESTIONNAIRE

Introduction

Dear Participant

With the support of the State School Teachers' Union and the Ministry of Education I am undertaking research into the levels and sources of stress being experienced by primary teachers in Western Australian Government schools.

Therefore, I ask for your co-operation in completing the following questionnaire. Being a practising classroom teacher I am fully aware of the pressures which you encounter each day. Accordingly, I have asked the principal of your school to allow part of a staff meeting to be allocated for the completion of the questionnaire.

Please consider carefully your response to each item. In addition to the written responses to the questionnaires I would also like to interview as many of the participants in the survey as possible. Should you be willing to be interviewed please complete the required information in section eight of the questionnaire. The instructions for this section should be followed to ensure anonymity of your written responses. Please place the completed questionnaire inside the attached envelope, seal the envelope and pass it to your principal.

Thanking you in anticipation.

Yours sincerely

Graeme Lock.

PRIMARY TEACHER OCCUPATIONAL STRESS QUESTIONNAIRE

Introduction

This questionnaire contains eight (8) sections. Please consider carefully your responses to the items in each section as they apply to your current situation. The instructions for the completion of each section should be followed exactly.

SECTION ONE: SOCIO-BIOGRAPHICAL INFORMATION

Instructions

Please CIRCLE the alternative which corresponds to your response to each item.

1. SEX	male	female
2. AGE (in years)	20-25	26-30
	31-35	36-40
	41-45	46-50
	51-55	over 55
3. LENGTH OF TEACHING EXPERIENCE (in years)	0-5	6-10
	11-15	16-20
	21-25	26-30
	31-35	over 35

4. YEAR LEVEL CURRENTLY TEACHING (circle the alternative which accurately reflects the group with which you spend most of your teaching time).	K-3	4-7
5. LEVEL OF QUALIFICATION	Diploma of Teaching B.A. (Teaching) B.Ed. Bachelor Degree and Dip. Ed. Post-Graduate Qualification	
6. TYPE OF EMPLOYMENT	Full-time	Part-time
7. CATEGORY OF EMPLOYMENT	Permanent	Temporary

SECTION TWO: MEASUREMENT OF JOB SATISFACTION

Instructions

Please CIRCLE the number which indicates your response to the following question

In general, how satisfied are you with your job as a teacher?

VERY SATISFIED	FAIRLY SATISFIED	NEITHER SATISFIED NOR DISSATISFIED	FAIRLY DISSATISFIED	VERY DISSATISFIED
1	2	3	4	5

SECTION THREE: MEASUREMENT OF STRESS LEVEL

Instructions

Please CIRCLE the number which indicates your response to the following question.

In general, how stressful do you find being a teacher?

NOT AT ALL STRESSFUL	MILDLY STRESSFUL	MODERATELY STRESSFUL	VERY STRESSFUL	EXTREMELY STRESSFUL
1	2	3	4	5

SECTION FOUR: SOURCES OF STRESS

Instructions

This section contains a list of events which some teachers have indicated cause stress. In an attempt to reduce the number of items in this section generic terms have been used for some items. For example, the item which reads "Spending time on duties other than teaching" covers a myriad of situations from yard duty to class assembly preparation and paperwork.

Each item has a scale which measures the possible degrees of stress which the item can cause. The numbers on the scale should be interpreted as follows:

1 - not at all stressful
2 - mildly stressful
3 - moderately stressful
4 - very stressful
5 - extremely stressful

Next to each item please CIRCLE the number which corresponds to the degree of stress which the particular event causes you. If you consider that an event is not applicable to you in your current situation, please circle 1. (This implies that if an event is not applicable to you in your current situation, then it will not cause you any stress.)

		NO STRESS	MILD STRESS	MODERATE STRESS	MUCH STRESS	EXTREME STRESS
4.1	Spending time on duties other than teaching.	1	2	3	4	5
4.2	Having to teach classes containing more than one year-level.	1	2	3	4	5
4.3	Being confronted with frequent changes to the curriculum.	1	2	3	4	5
4.4	Too many interruptions to the teaching program due to the four-term year.	1	2	3	4	5
4.5	Unrealistic community expectations of teachers.	1	2	3	4	5
4.6	Having to deal with the welfare needs of parents.	1	2	3	4	5
4.7	Lack of support from the principal.	1	2	3	4	5
4.8	Participating in inappropriate industrial action.	1	2	3	4	5
4.9	Being expected to fulfil a number of different expectations from a variety of sources (the government, the community, students, parents and colleagues).	1	2	3	4	5
4.10	Failure of the Ministry of Education to provide adequate resources.	1	2	3	4	5
4.11	Principal displaying favouritism towards some staff members.	1	2	3	4	5
4.12	Changes initiated by the Ministry of Education are expected to be implemented too quickly.	1	2	3	4	5

		NO STRESS	MILD STRESS	MODERATE STRESS	MUCH STRESS	EXTREME STRESS
4.13	Not having enough time during the school-day for marking and preparation.	1	2	3	4	5
4.14	Having to deal with disruptive students.	1	2	3	4	5
4.15	Feeling socially isolated from the staff.	1	2	3	4	5
4.16	Inadequate school-level discipline policy.	1	2	3	4	5
4.17	Teaching a class which has a wide range of learning abilities among the students.	1	2	3	4	5
4.18	Intrusion of school-related work on private time.	1	2	3	4	5
4.19	Having to teach classes in which there are too many children.	1	2	3	4	5
4.20	The lack of relevance of curriculum for the children I teach.	1	2	3	4	5
4.21	Starting school at the beginning of the year not feeling refreshed.	1	2	3	4	5
4.22	Lack of appreciation of teacher by the general community.	1	2	3	4	5
4.23	Having to deal with the welfare needs of some students.	1	2	3	4	5
4.24	Inadequate communication system within the school.	1	2	3	4	5
4.25	Poor Union-Ministry relations.	1	2	3	4	5
4.26	Being expected to fulfil a number of conflicting roles, such as social control, evaluation responsibilities and clerical duties.	1	2	3	4	5
4.27	Having students in class who are continually disobedient.	1	2	3	4	5

		NO STRESS	MILD STRESS	MODERATE STRESS	MUCH STRESS	EXTREME STRESS
4.28	Inept leadership by the Ministry of Education.	1	2	3	4	5
4.29	Student-free days are inappropriately used.	1	2	3	4	5
4.30	Teaching students whose attendance at school is inconsistent.	1	2	3	4	5
4.31	Feeling professionally isolated from the staff.	1	2	3	4	5
4.32	Pressure on time due to increasing workloads.	1	2	3	4	5
4.33	Teaching students who have unrealistic expectations of themselves.	1	2	3	4	5
4.34	Inadequate communication between the Ministry of Education and classroom teachers.	1	2	3	4	5
4.35	Failure of the principal to provide adequate resources.	1	2	3	4	5
4.36	Having to teach subjects of which I have little knowledge.	1	2	3	4	5
4.37	The repetitive nature of having to prepare teaching programs.	1	2	3	4	5
4.38	The hot weather at the beginning of the year.	1	2	3	4	5
4.39	Having to undertake duties other than teaching.	1	2	3	4	5
4.40	Lack of support from the Union.	1	2	3	4	5
4.41	Having little influence over political decisions in relation to education, such as student-teacher ratios, curriculum requirements and conditions of employment.	1	2	3	4	5

	NO STRESS	MILD STRESS	MODERATE STRESS	MUCH STRESS	EXTREME STRESS
4.42 Lack of assistance with the effective management of time.	1	2	3	4	5
4.43 Teaching students who are not interested in their schoolwork.	1	2	3	4	5
4.44 Having some teachers in the school who are perceived not to do their share of the workload.	1	2	3	4	5
4.45 Pressure on time due to increasing expectations.	1	2	3	4	5
4.46 Lack of professional development activities which do not interfere with private time.	1	2	3	4	5
4.47 Dealing with students who physically attack other students.	1	2	3	4	5
4.48 Lack of a definitive school policy on pastoral care.	1	2	3	4	5
4.49 Lack of participation in decision-making at the school-level.	1	2	3	4	5
4.50 The threat of industrial action.	1	2	3	4	5
4.51 Lack of useful in-service courses.	1	2	3	4	5
4.52 Teaching students whose level of achievement is less than expected.	1	2	3	4	5
4.53 Lack of co-operation between staff.	1	2	3	4	5
4.54 Pressure on time due to preparation for individual students.	1	2	3	4	5
4.55 Lack of recognition of good teaching by Ministry of Education.	1	2	3	4	5

	NO STRESS	MILD STRESS	MODERATE STRESS	MUCH STRESS	EXTREME STRESS
4.56 Being unsatisfied with my job.	1	2	3	4	5
4.57 Working in a poorly managed school.	1	2	3	4	5
4.58 Lack of support from parents in the education of their child.	1	2	3	4	5
4.59 Political interference in education.	1	2	3	4	5
4.60 Pressure on time due to having to meet deadlines.	1	2	3	4	5
4.61 Lack of co-operation from welfare agencies.	1	2	3	4	5
4.62 Obtaining permanency.	1	2	3	4	5
4.63 Difficulty in obtaining transfer from unhappy school situation.	1	2	3	4	5
4.64 Too many interruptions to teaching program due to extra-curricular activities (eg. concert, sport practices).	1	2	3	4	5
4.65 Lack of practical support from school psychologist.	1	2	3	4	5

SECTION FIVE: MEASUREMENT OF ASPECTS OF JOB SATISFACTION

Instructions

The following questions ask you to respond to a number of aspects about your job. Please CIRCLE your response to each item. The number 1 indicates strong disagreement with the statement and the number 7 indicates strong agreement.

		STRONGLY DISAGREE						STRONGLY AGREE
5.1	When I finish work I generally feel that I have achieved something	1	2	3	4	5	6	7
5.2	I only work in this job because I need the money	1	2	3	4	5	6	7
5.3	I'm always being told how to do my job by my superior	1	2	3	4	5	6	7
5.4	My work involves considerable scope and variety	1	2	3	4	5	6	7
5.5	If I stopped work at this school I would really miss my friends here	1	2	3	4	5	6	7
5.6	When I'm at work I can't wait until it is time to go home	1	2	3	4	5	6	7

SECTION SIX: FELT EFFECTS

Instructions

The following questions ask you to respond to a number of symptoms of stress which you might suffer. Please CIRCLE your response to each item.

6.1	I feel disinclined to go to work.	RARELY	SOMETIMES	OFTEN
6.2	I have difficulty concentrating on things when I want to.	RARELY	SOMETIMES	OFTEN
6.3	I have sleeping difficulties (hard to get to sleep, sporadic waking, early waking).	RARELY	SOMETIMES	OFTEN
6.4	I suffer from nagging pain (back ache, neck pain, headaches).	RARELY	SOMETIMES	OFTEN
6.5	I am easily irritated by small things.	RARELY	SOMETIMES	OFTEN
6.6	I have a strong urge to cry.	RARELY	SOMETIMES	OFTEN
6.7	I feel depressed, down in the dumps.	RARELY	SOMETIMES	OFTEN
6.8	I feel dizzy or "floaty" for no apparent reason.	RARELY	SOMETIMES	OFTEN
6.9	I feel afraid.	RARELY	SOMETIMES	OFTEN
6.10	I'm very fatigued for no good reason - a real loss of energy.	RARELY	SOMETIMES	OFTEN

SECTION SEVEN: TEACHING AND YOU

Instructions

Please rate the concept "Teaching and You" using the following bi-polar adjectives by placing a cross "X" in the appropriate interval space. For example,

	SAFE	: : : X : : :	DANGEROUS

CONCEPT: TEACHING AND YOU.

7.1	GOOD	: : : : : :	BAD
7.2	POSITIVE	: : : : : :	NEGATIVE
7.3	MEANINGLESS	: : : : : :	MEANINGFUL
7.4	USEFUL	: : : : : :	USELESS
7.5	HEAVENLY	: : : : : :	HELLISH
7.6	PAINFUL	: : : : : :	PAINLESS
7.7	PLEASANT	: : : : : :	UNPLEASANT
7.8	AWFUL	: : : : : :	NICE
7.9	VALUABLE	: : : : : :	WORTHLESS
7.10	IMPORTANT	: : : : : :	UNIMPORTANT

SECTION EIGHT: INTERVIEW

Instructions

If you are willing to be interviewed with regard to this research would you complete the details below. Once you have completed the details, place this sheet of paper in the smaller envelope designated for this purpose and hand it, together with your completed survey in the sealed envelope, to your principal. The envelopes containing your written responses and willingness to be interviewed will be collected by me from your principal.

NAME:_____

CONTACT TELEPHONE NUMBER:_____

BEST TIME TO BE CONTACTED: _____

APPENDIX FOUR

TRANSCRIPTS OF INTERVIEWS

Subject One

Interview Time: 35 minutes

2	Female
4	36-40
2	6-10
3	K-3
1	Diploma of Teaching
1	Full Time
1	Permanent
4	Fairly Dissatisfied
4	Very Stressful

Negative attitude towards Ministry and Government. Believed that both institutions are selling teachers short.

Children in general realise that no real major consequences of bad behaviour - act accordingly. Where whole school approach to behavioural management used children have worked out the "limits" to which they can go before punitive action taken. Children stop at the limit.

M.S.B. approach not done properly (Canter). At this school children not being made to realise that they are responsible for their action - need for proper professional development. Lack of staff consistency in following rules of discipline policy.

No longer respect for teachers - show contempt towards teachers. Holidays a real issue with parents. Community demanding more hours at work - resulted from Government publicity. Therefore, increased demands to do more and to work longer hours - purely a quantitative issue, i.e. work more hours.

Increasing community pressure to do more work interfering with private life and increasing stress felt at home.

Teachers are expected to take on more and more non-traditional subjects: e.g. AIDS, sex education. Controversial subjects such as these often result in poor attendance - parents withdraw children because they feel children not ready. Then parents want to know why basic skills are not being taught longer.

Unsympathetic media reports on teaching standards and results - whether accurate or not - seen to be believed by the community in general. This further inhibits doing the job properly.

Both parents working means children unsupervised after school. In one instance a 6 year old was found by neighbours unsupervised at 8.30 p.m. When returned home house still empty. Such abdication of parental responsibility contributes to delinquency. Parents of this child complain about being unable to discipline boy. Elder brother same behavioural problem. Parents now regularly visited by welfare. These parents expect school to fulfil traditional parental role. Parents not supportive of school's efforts at first but very slowly changing attitude because of the school's pressure on them (children could be expelled - which may mean parents

have to look after them). Some positive effect has been noticed on both boys due to school's efforts.

School year should change such that holidays occur over February.

4 term year more stressful because more is being "crammed into" each term. This relates particularly to extra-curricular activities. Prefer a longer middle of year break - would help to alleviate stress.

Lack of collegial support based on incorrect summation of a situation: people will not discuss their teaching methods because frightened of being criticised. This may be a result of also being criticised by parents. When relating success accused of "grandstanding" - may seem petty but over time builds up stress. Need for professional development to acquire a professional approach. Need to breakdown classroom isolation, i.e. being aware of what other teachers in the school and other schools are doing.

Parent continually questions teacher's ability, not allowing child to progress - blaming teacher not child when child has poor attitude to work, consistently lies to parents and others (which parents believe) and doing no work.

Abusive letters from parents based on incorrect information from child. Parents very arrogant, looked down on teacher because female.

Parents not supporting school activities: e.g. sports day - staff have to do extra work - leads to more stress. Extra-curricular activities frequent, but support not forthcoming.

Questionnaire comment: - many teachers could not believe the number of items which they circled 4 or 5. However, believed questionnaire to be comprehensive.

Subject Two

Interview Time: 40 minutes

2	Female
5	41-45
2	6-10
1	K-3
1	Diploma of Teaching
1	Full-time
1	Permanent
2	Fairly satisfied
2	Mildly stressful

Government and Ministry treat teachers poorly. Country service - not looked after, find own accommodation, no one cares about your situation, lack of support - socially have to find own way, complete lack of induction. Need for positive impact back to teachers. Lack of public support for teachers. A significant contributing factor to stress but there are others that are worse.

Teaching can be a very self-satisfying job. The main pleasure comes from the children. In most cases children's work standards and quality of work superb. Only the small minority of children which cause problems and attract publicity.

Public attitude towards teachers. Adults tend to forget that they were once children and will not allow for error in the child. Parents attribute blame for children's behavioural misdemeanours and lack of academic

progress to the teachers. Parents treat me with respect because I am older than most parents of students I teach and use appropriate body language. Need to constantly defend oneself to parents very stressful. With young children parents use psychological approach in an attempt to control their children - waste of time.

Ministry's insistence on neutral/non-identifiable titles such as Ms, sportsperson etc. very stressful. Proud to be a woman. Do not want to hide behind a non-descriptive title.

Principal's failure to provide resources. I had to spend $200 of own money on books. Resulted in an outburst to staff in general. Typists are not expected to provide own typewriter.

Lack of support from Union very stressful. Particularly when related to provision of own resources which uses money which could have been used on own children's education. Strike in 1989 farcical - too well organised and caused no disruption in my opinion. Action after the strike such as asking for donations was absurd. Personal contact with members of Union executive resulted in no support. No confidence in Union to look after teachers - a very weak organisation. Only reason for Union membership is employment security. Union not in touch with its members.

Lack of professionalism among teachers. Too concerned with petty issues. Despite this there is much collegial support.

Questionnaire was distributed at a bad time to be completed - but, then, when is a good time?

Subject Three

Interview Time: 75 minutes

2	Female	
6	46-50	
4	16-20	
4	4-7	
3	Bachelor of Education	
1	Full time	
1	Permanent	
1	Very satisfied	(Answered as a teacher not as a
2	Mildly stressful	member of a school or Ministry employee).

Them and us between Government/Ministry and teachers. Almost as if against each other. No support from Ministry, lack of a team ethic. Not particularly stressful, but annoying. No longer cares what either Ministry or Union does. Therefore, no care - no stress.

Favouritism by principal towards some staff - male chauvinist, favour men, buddy-buddy attitude. One particular teacher (male) has a very favourable timetable - 6 hours DOTT and doesn't really deserve this. A lazy individual, does not motivate children, notable decline in children's quality of output. Relates to item on some staff not doing much.

Lack of principal support - will not support ideas that are not his own. Can make life difficult if you wish to pursue your own ideas. Little/no encouragement for school-based decision-making by teachers. An

autocrat. Makes life difficult for inexperienced female teachers. Teachers fear recrimination from principal if disagree with/oppose him. Presents a good image-up-to date, caring etc - but practises the opposite.

Inadequate communication system within the school - no communication system. Written memos dominate - placed in pigeon holes. Any personal approaches haphazard. Selective distribution of information by principal. Previously set priorities not adhered to, no re-setting of priorities. Lack of forewarning of arrival of computers an example.

Total lack of participative decision-making. Principal dominates decision-making through information overload.

Disruptive students. One boy takes up too much time. Completely disrupts class when present. Physically aggressive. Doesn't respond to positive behavioural modification techniques. Completely anti-social. Lack of effective support from principal after initial attempt failed.

Student free days total waste of time. Almost a social occasion without substantial results. Good for team work ethic but nothing produced.

Professionally isolated from staff - complete lack of teamwork.

Staff not completely professional in their approach to their job. Professional development days could have been used to improve this situation. Isolation leads to feelings of inadequacy. Inhibits acquisition of up-to-date information. Principal will not arrange support program to allow staff to attend professional development programs. This prevents contact with other teachers in other schools. This narrows professional

development activities to out-of-school hours. While beneficial, this does encroach on private time.

Principal does not always provide funds for staff to attend courses. Possibly because too many staff will acquire too much knowledge and present a challenge to his power.

Undertaking duty other than teaching - particularly having to arrange professional development courses in DOTT or private time. No support from principal for time off to do this.

Inadequate Ministry - classroom teacher communication. Results in frustration when colleagues are unaware of materials because of this lack of communication.

Poorly managed school - relates to other aspects of poor quality leadership.

Minor irritations, which by themselves are not a real worry, when continually occur cause stress: i.e. minor stresses have an incremental influence on stress. The occurrence of each stressor in conjunction with other minor stressors contributes to feelings of much and extreme stress.

Thorough questionnaire which covered nearly every aspect of a teacher's life. A gutsy questionnaire - covers relevant and current issues.

Subject Four

Interview Time: 60 minutes

2	Female
2	26-30
2	6-10
1	K-3
1	Diploma of Teaching
1	Full Time
1	Permanent
1	Very satisfied
3	Moderately stressful

Not a very good attitude from Ministry and Government towards teachers. Do not care for teachers. Do not publicly acknowledge teachers' worth. Any comment from Ministry and Government appears to be negative. "Silver City" needs more teachers to be there and not administrators.

In a previous school subjected to professional harassment by principal. Refusal to discuss the situation logically and calmly. No initial support from superintendent. End result was principal advised me to get out of teaching or he would state I was incompetent which was a totally incorrect assessment. Principal would visit classroom and take over - lost confidence and children wondered what was going on. Announced to staff without prior consultation that complaints had been made about me - investigation showed that no complaints had been made except by the mother of a child in the class who wanted my job. Suspect that this

woman was girlfriend of principal. This woman continued to pressure me to get out. Ultimately came close to completely breaking down.

Frequent changes to the curriculum poses problems especially when there is a lack of relevant in-service course.

Unrealistic community expectations - do not seem to realise the multiplicity of roles teachers now have. Teachers' roles beyond the traditional role and this is not acknowledged, but the new roles are expected to be performed - parent, psychologist, nurse, marriage guidance counsellor, disciplinarian and so on. For example I once had to confront a woman who had been beaten by her husband who was in an alcoholic rage. I am not trained to do this. Welfare needs item relates to the above. Examples include buying kids lunch, paying for excursions, and buying pencils and crayons.

Industrial action - not morally acceptable to go on strike. Why should children suffer?

Different expectations from variety of sources - governments expect a lot from teachers without the necessary funding and resources; parents try to take over class because they think they can do a better job (some were ex-teachers); lack of definition of teacher's role.

Changes are expected to be implemented too quickly. For example new maths and art curricula. This school has started to set its own timetable for implementation of curricula which may not be the same as the Ministry's timetable. Complicated by lack of widespread inservicing. I usually pay to attend in-service courses and attend them in my own time.

Not enough time for preparation and marking self explanatory.

Disruptive students are a real problem. Students undisciplined at home and when discipline imposed at school not backed up at home. Some (1/4 class) completely lacking in social training: e.g. no manners, not toilet trained, steal, answer back. Although in Year One, already starting to see the limitations of any discipline procedures. Too much reliance on psychology. Behavioural modification programs only work for a short time. Why should student be rewarded for doing something e.g. behaving, that they should be doing anyway?

Class with wide range of learning abilities makes teaching very tiring. Weaker children hold back progress of better students. Makes classroom management difficult.

Intrusion of school work on private time lessens relaxation time particularly on weekends. Contributes to being tired and worn out quicker than should be.

Lack of appreciation of teachers by community. Perception is teachers have long holidays and do little in between. Ministry does not try to correct this misperception.

Dealing with student welfare - one student comes to school reeking of urine. Parents have done nothing to rectify this situation. This child can become a real problem.

Conflicting roles relates to different expectations.

Students who are continually disobedient. Too often parents do not support the school's efforts.

Teaching students with little interest in school makes me feel like I am wasting my time. Lack of support at home. See no reason to give up personal time to help students who are not interested and do nothing.

Students who physically attack other students is stressing because what do you do with them - especially when they are young?

Lack of support from parents in child's education, in some cases, has resulted in parents blaming me for lack of child's progress: e.g. reading. Parents will not accept the fact that their children have difficulties with learning or are not ready to learn.

Difficulty in obtaining transfer from unhappy school situation has proved stressful in the past.

While children can be the source of much stress, they can also be the source of much pleasure. I think that very few teachers resign because of problems with students. They resign because of frustration with other teachers, parents, school administrators and the Ministry.

Some stressors, although in themselves not particularly stressing, when they start to accumulate, result in eventual high levels of felt stress.

A very comprehensive questionnaire. Covered many aspects of teaching. Questionnaire easy to fill out. Very thorough, covered some details not thought about.

Subject Five

Interview Time: 45 minutes

2	Female
6	46-50
2	6-10
K	K-3
1	Diploma of Teaching
1	Full time
1	Permanent
2	Fairly satisfied
2	Mildly stressful

Poor attitude towards teachers displayed by both Ministry and Government. Latest offer for pay rise reveals a lack of understanding of what the job entails - $800 p.a. for an extra 3 hours a week. Government and Ministry always seem to back parents - definite lack of public support. Rhetoric of support does not equal reality.

Unrealistic community expectations of teachers - parents are expecting teachers to take on parental roles, they will not do these roles themselves. No follow up of my behavioural modification programs at home. Parents expect teachers to act as counsellors for their own problems. Used to organise events as part of a social support program.

Failure of Ministry of Education to supply resources, particularly having taught in schools which have been well resourced. Children have a lack

of appropriate stimulating learning materials/resources. Need to consult with classroom teachers about the type of resources needed.

Lack of adequate in-service courses in relation to new curricula at the appropriate level. For example, junior primary needs are frequently inadequately dealt with at professional development courses in comparison to the time devoted to senior primary concerns. Relates to lack of useful in-service courses for me.

Disruptive students are a real problem - upset the whole classroom. Only takes a few students to completely disrupt the class. In some cases one student can ruin the classroom climate.

Classes with too many children - makes it difficult to give individual attention to children.

Inept leadership by Ministry of Education - the Ministry do not seem to know where they are going. Lack of consultation over changes to curricula.

Inconsistent attendance by students - constantly trying to make sure that such children keep up to date. Inconsistent children also seem to be the weaker students.

Inadequate communication between Ministry and classroom teachers - there is no effective communication, lack of consultation with teachers.

Little influence over political decisions very stressful, compounded by total lack of consultation. Government/Ministry more concerned with putting

across a good PR exercise rather than putting money into actually improving what happens in the classroom.

Lack of support from parents in the education of their children. Parents do not assist in developing children's skills at home when such practice would be invaluable to the child.

Individual stressors which by themselves do not cause stress when lumped together can produce feelings of much extreme stress.

Good questionnaire. Easy to understand. Set at an appropriate level. Seemed to cover most situations. While the questionnaire did cover most aspects, answers given for previous situations may have been different. However, I realise the need to obtain current information so that appropriate policies can be implemented.

Subject Six

Interview Time: 55 minutes

2	Female
4	36-40
2	6-10
3	K-3
1	Diploma of Teaching
1	Full time
2	Temporary
2	Fairly satisfied
4	Very stressful

Ministry/Government do not care for us as individual teachers. If you asked non-teaching Ministry employees they would suggest that they do care for individuals. As a whole, the Ministry body are not in touch with the job of teaching.

Ministry require us to write programs tailored to our class. Provide us with curriculum and in-service courses to assist. But do not have time to go through this document or attend courses. Easier to use other teachers' or group of teachers' programs. The Ministry's curriculum document is not useful/practical - too big. Probably contains good information but time prevents accessibility. I believe the Ministry wastes money on preparing documents of little practical value.

Performance indicators. We have spent many hours over the last couple of years working on this and then the Ministry presented us with its own effort - we wasted out time.

Cannot get information from Ministry on temporary teacher return which I have to complete annually.

Spending time on duties other than teaching: e.g. deciding on the performance indicators required research and presentation of material. Interferes with my own preparation time. This particular example was something I could have done without: i.e. an extra task. Too much sport based activities, book week, giving out and collecting principal-generated communications are other examples.

Welfare needs of parents: e.g. marriage counselling, helping parents coping with own children, overcoming parents' personal problems. Pass problems on to me and often after a discussion such problems can be solved. But is this my job?

Lack of support from principal - did not adequately prepare me for parental complaints. Misinterpreted one parent's query. Needs to examine issues regarding parents in more detail: e.g. mother rang up for classroom doors to be opened at 8.20 am, he assumed it was my door. Told me I wasn't getting to school on time and children suffering in cold as a result and I was being too negative. Took another parent's side about a complaint about me - such complaint was unjustified. Principal needs to communicate more closely with me over parent issues.

Not enough time in school day for marking and preparation. Spend most of my day teaching - only get 30-40 minutes per day DOTT. This is not enough. I spend at least 2 hours a night marking and preparing at home (5 nights per week).

Intrusion of school-related work on private time. Expect to do some but not as much as I have to - due to demands of teaching.

Poor Union - Ministry Relations - something wrong with this. The Union should do better - if they claim to represent teachers.

Inept leadership from Ministry of Education - not fulfilling role which I expect.

Increasing workloads have resulted in increased pressure on time - relates to intrusion on private time.

Students regard school as a social event - not for working. I have to constantly bring students back on to task. I wonder if this relates to parents' attitudes towards schools. If parents had better attitudes then students may have a better approach.

Repetitive nature of preparing programs - SW regional educational office has an excellent programming format/resource. Why can't the Ministry provide this? As a temporary teacher this item is particularly applicable to me.

Little influence over political decisions in relation to education when such decisions affect me: e.g. conditions of employment for temporary teachers.

Students who are not interested in their schoolwork relates to previous comment on socialising at school.

Pressure of time due to increasing expectations. Expectations of what teachers can accomplish in the classroom are increasing but provision of time to develop children is not there: e.g. current discussion on student preparation for workforce - this does filter down to primary schools - spelling.

Obtaining permanency. In previous years, guidelines have changed. To obtain permanency I have to teach in an outer metropolitan school which means my children would have to change schools - daughter has to attend a particular school due to deafness. I have already completed 4 years' country service - surely this is enough.

Lack of practical support from school psychologist probably due to lack of time. He is only in school one day a week. One child in particular has caused me many problems and I have not received adequate support from school psychologist.
A great many minor stressors can accumulate to cause much stress: e.g. paper warfare from school office.

Questionnaire was good because it looked into teacher stress. Questions relevant and interview allowed me to clarify some situations. Focussed

on relevant areas to do with teachers. Research into teacher stress in WA has been inadequate.

Subject Seven

Interview Time: 30 minutes

2	Female
4	36-40
4	16-20
7	4-7
1	Diploma of Teaching
1	Full-time
2	Temporary
1	Very satisfied
2	Mildly stressful

I have only been teaching in W.A. since January 1990. Staffing officers at Ministry have been very good to me on an individual level. Ministry appears to me to be publicly supportive of teachers by comparison with my previous situation (N.Z.).

I view school as an escape from my personal stresses. Therefore, I feel on a "high" when I go to school on the great majority of occasions.

Welfare needs of students - much of this revolves around dealing with the social and emotional problems of children. Parents expect me to solve these problems.

Students who are continually disobedient. These are not students who are defiant but persist in minor disruptions. This is only three boys, otherwise class is fine.

Teaching subjects of which I have little knowledge. I would prefer a team teaching approach in which teachers specialise in particular subjects.

Teaching students when level of achievement is less than expected. I expected that by Year 7 differences in learning abilities have evened out. This has not proved true. Therefore, I have to make extra effort to help individual students.

Pressure on time due to increasing expectations. A particular example of this is accountability. Everything must be kept in writing.

Obtaining permanency. Feeling of insecurity, particularly with financial commitments, is stressful. Uncertainty of employment at the start of each school year is a real worry.

Too many interruptions to teaching program due to extra curricular activities. This is particularly annoying when only given a couple of hours notice: e.g. sport and cultural activities. This makes it difficult to get through the syllabus - adds to the pressure.

Minor stressors can definitely have a cumulative affect on stress. For example, dealing with social problems of children to parents' problems on single occasions do not worry me. However, if such situations multiply in a short period this can lead to feeling very stressed.

Questionnaire covered every aspect of teaching. Very easy to fill in.

Subject Eight

Interview Time: 35 minutes

1	Male
7	51-55
4	16-20
7	4-7
4	Bachelor Degree and Diploma of Education
1	Full-time
1	Permanent
1	Very satisfied
2	Mildly stressful

Ministry/Government see us as numbers/sheep. I maintain that the schools could close down for 3 months and the Ministry would not know. I feel sorrow for the Ministry because they do not know what they are doing. Leadership is lacking in the Ministry. However, I believe that the Ministry has good intentions and these are not translated into action.

Participating in inappropriate industrial action is extremely stressful. I am opposed to strikes on idealistic and pragmatic grounds: i.e. third party should not be affected and nothing is gained anyway. This also relates to the threat of industrial action.

Changes by the Ministry expected to be initiated too quickly. If I did what expected I would be stressed. However, this school is self-determining in implementation of policy.

Dealing with disruptive students can cause much stress but generally I enjoy the challenge.

Inept leadership by the Ministry of Education. The Ministry don't really understand what their job is. Priorities of Ministry are incorrect. Decisions should be based on the premise that children and teachers are most important. Process of curriculum development, implementation and evaluation needs revision. More consultation with teachers needed. This can also apply to inadequate communication between the Ministry and classroom teachers. There is a need for more face-to-face contact.

Lack of professional development activities which do not interfere with private time. This is particularly so since the strike. Previously I use to accept out of hours courses, but no longer.

Lack of system - level recognition of good teaching. This goes to the core of what the Ministry should be about. No effective recognition of good teaching - honour certificates are a joke.

There is a need for more inter-school communication and visits. More contact can only improve the quality of teaching and schools.

Incremental nature of minor stressors can be quite noticeable. Many little incidents can have a detrimental effect on stress.

Questionnaire was well constructed. Plenty of cross-checks. This made me think about my responses. This is a useful research exercise due to the follow up which will occur.

Subject Nine

Interview Time: 40 minutes

2	Female
5	41-45
4	16-20
7	4-7
1	Diploma of Teaching
1	Full time
1	Permanent
1	Very satisfied
3	Moderately stressful

I feel as if I am a number to the Ministry/Government. Once I was a person to the Ministry (probably just over 5 years ago). The system appears to have been dehumanised. In contact with Ministry officials lack of personal warmth - often fobbed off. Too many non-teachers in the Ministry. How can they know what happens in the schools? Superintendents were previously (about pre- 1985, 1986) seen more - good for the students. Now we hardly see any Ministry officials.

Lack of support from principal. At a staff meeting teachers complained about parents continually being at classrooms without prior contact. Staff agreed to the need for appointments to be made and a newsletter to this effect was sent home. Principal then issued a public retraction a couple of days later in which he disclaimed responsibility for and knowledge of the note. This led to a confrontation with staff at recess and most day. However, the incident was never satisfactorily resolved. Principal refused

to apologise and had upset both the secretary and female deputy over the incident (abuse).

Having to deal with disruptive students. The number of disruptive students seems to be increasing. I really worry about the impact such students have on the better students. Sometimes the impact these students has on me makes me annoyed because I become somewhat grumpy, which is not fair on the good students. This can be linked to an inadequate school-level discipline policy. A consistent whole school approach can be quite effective. In addition, this is closely related to having students who are consistently disobedient.

While there is inadequate communication between the Ministry and classroom teachers this does not cause me stress. I merely acknowledge the situation. This is also the approach I take with the poor community attitude towards teachers - it exists but I no longer worry about it.

Many items which in themselves do not cause me any stress when occurring in a short period of time can be very stressful. For example, the implementation of computer reporting when I initially used it caused me stress. I was not really prepared for the change. I thought this was a good idea at first but in practice, on the first occasion, I was not impressed. Another example concerns minor interruptions such as a p.a. announcement, then a knock on the door and so on.

Quite a good questionnaire. A good cross section of items. Very specific items which covered the whole spectrum of a teacher's work life. Very easy to fill in, clear instructions.

Subject Ten

Interview Time: 60 minutes

1	Male
6	46-50
5	21-25
7	4-7
4	Bachelor Degree and Diploma of Education
1	Full time
1	Permanent
3	Neither satisfied nor dissatisfied
3	Moderately stressful

Of recent times the Ministry has lost the personal approach towards teachers. We have become numbers. The Ministry has removed a lot of support mechanisms which were there for many years. Lot of comments in staff room about how to get information from the Ministry on aspects such as curriculum. Feeling among a lot of staff that change is occurring, there is no support for this change and that the situation is deteriorating and not improving. From an administrative point of view a lot of tasks are being downloaded to school-level administration. These tasks are drawing the administration away from their jobs as educators which is detrimental to school morale. Principals are being turned into managers with less emphasis on education. No extra time has been allocated for these tasks, which still have to be performed in addition to traditional administrative tasks. The educational tasks have been given more to the deputies, but the staff have not recognised this transfer of responsibility and authority and often do not follow deputies' advice/directives.

Too many changes to the curriculum can have an unsettling effect. Combined with lack of support this creates a problem. Changes are too quick and no support.

Community expectations of teachers. In the higher socio-economic areas the professionals think they have the right to suggest to teachers how to teach.

Number of different expectations. This is increasing. Pressure from community to improve basics and quality of education while the Ministry is implementing a "watered down" curriculum: e.g. new mathematics syllabus has been made easier and broadened, and this does not equate with parent demand.

Dealing with disruptive children is becoming an increasing problem. The ultimate deterrent is not strong enough to work. Children realise this and so play the system. This can link to school level-policy which, however, is dictated by Ministry constraints.

Intrusion of school related work on private time is an increasing phenomenon.

Dealing with the welfare needs of children has been a problem this year. Takes up much of my time in which I would have been doing something else.

Continually disobedient children are a real problem particularly with inappropriate/inadequate discipline policy. Particularly so with wilful children.

Student-free days are inappropriately used. Too much focus on school development plan when more practical issues such as curriculum matters could be dealt with.

Lack of influence over political decisions is accepted but not supported.

Pressure on time due to increasing expectations relates to different expectations.

Lack of professional development activities which do not interfere with my private time would not worry me if I had a choice.

Lack of system-level recognition of good teaching causes me dissatisfaction rather than stress.

Lack of parental support for their child's education can prove stressful when such parents express dissatisfaction with the teacher at higher levels. This then gets back to the teacher who is not at fault.

Interruption to teaching programs, particularly because of sport practices, can cause stress if DOTT needs to be rearranged. When children come back from sport to the classroom they can be difficult to settle down.

Individual causes of stress can "snowball" to cause much stress. Particularly unscheduled interruptions to deal with another teacher's disruptive pupils. Failure of technological equipment to work properly can be a problem. Particularly if this becomes repetitive.

Thorough questionnaire. It made me think about things which cause me stress.

Subject Eleven

Interview Time: 75 minutes

1	Male
3	31-35
2	6-10
3	K-3
1	Diploma of Teaching
1	Full-time
1	Permanent
2	Fairly satisfied
3	Moderately stressful

The Ministry/Government is out of touch, distant from teachers. Very taken up with own projects. Tend to ignore what is happening in the classrooms. We don't see many Ministry representatives in the school. Many teachers would not know what the Ministry does for them. The current self-determining, decentralising plan the Ministry is promoting is rubbish. Very poor communication. Very much concerned with public relations - do not care what happens in the classroom. Self-determination in practice is no change from previous situation - still a bureaucracy. The change is more apparent than real.

Changes to role of regional office have been good - we now have advisers.

Principal displaying favouritism towards some staff members. When I ask for permission to perform a task outside the classroom the principal will alter/change/restrict my original plans despite these having been well thought out. A person who is favoured will have no problems getting permission, be encouraged and receive some subsidy from school funds. This does not happen with me. A principal turning a blind eye to a favoured teacher who is incompetent in part and who requires guidance and who refuses because the teacher panders to the principal's whims and ego. Females are very successful in this endeavour. This is sexual discrimination against males. While this is subtle it is also very obvious. Some teachers have the ability to have manipulative power over the principal. They know this and use this power to their advantage. There are people who always put in an appearance - they lack substance. You are best not to say anything against these people to the principal, even if the complaint is legitimate. These sort of teachers are well looked after with classes, DOTT and so on. This can have a detrimental impact on staff morale.

Unrealistic community expectations of teachers. This is coupled with having to deal with welfare needs of children. We are at school to teach children, not to run a day care centre. We are not at school to take over parental responsibilities. 95% of parents are good but it is the other 5% who cause all the problems. One particular parent is the overly protective single mothers who have a chip on their shoulders about men. They are also emotionally unstable.

Most of the listed items are symptoms of a Ministry which is totally out of touch with what is going on. Principals can be totally incompetent and get away with it. This can also apply to the staff. The Ministry have been

good at creating a glossy facade. The state education system is ineffective. At the school level there are some good things happening which are neither publicised nor recognised. The human management skills are non-existent within the Ministry - Coles are better.

Principals need training in management skills. The merit promotion system is not really effective - most promotions come down to seniority.

No one seems to be checking up to see who is doing a good job. Ministry officials have not been trained in the classroom. A minimum of 10 years in the classroom should be a pre-requisite before being given any sort of Ministry job.

The education system has got too many people in it who are not teaching - career based people. There are too many people working who are only doing so to pay off the mortgage.

The principals cannot or will not do anything about this. Until teaching-career based teachers are encouraged the system will continue to decline. There are not enough people who care for kids. This particularly applies to married women who have come back into the workforce after having children. These people have a "teacher image" which is only skin deep: they have no teaching aspirations. Such people are generally gone from school within 5 minutes of the final bell. Any who do extra work have ulterior motives - brownie points from the principal.

"Better schools" did not tackle the problem of teaching quality. It only examined surface issues such as curriculum content.

My biggest cause of stress is that I am a career person. The Ministry does not promote people like me, nor recognise excellence. There are some incompetent teachers who are on the top of the pay scale. This should not occur. There are no career incentives. Excellence should be rewarded.

The Ministry does not know how to deal with incompetent teachers - of which there are quite a few. Something needs to be done about them. However, if incompetent teachers were sacked there would be a shortage of teachers. Teaching is not an attractive career because of all the additional tasks given to teachers.

There is a lack of a defined career path for many teachers. Once you reach the top of the pay scale where do you go? Particularly if you enjoy classroom teaching.

Lots of things which in themselves are not stressful when they occur frequently can cause stress. If there is good communication in a school, interruptions to the classroom activities should not happen. This is even worse when you can't tell the principal because he won't listen.

The questions were very good. It is a pity that nothing can be done about them. It is one thing to ask a question and identify a problem, another to do something about it. The Ministry is unlikely to take the results of this research seriously.

Subject Twelve

Interview Time: 45 minutes

1	Male
5	41-45
2	6-10
7	4-7
3	Bachelor of Education
1	Full time
1	Permanent
1	Very satisfied
2	Mildly stressful

The Ministry/Government does not have a good attitude towards teachers. We are not treated as professional - we are viewed as trades people. This applies to the Government more than the Ministry. I believe that the Ministry sees us a nuisance at times. The Ministry does not seem to realise that we are the reason for its existence. Very difficult to get the Ministry to accede to requests for resources. The Ministry considers teachers to be numbers not people.

Spending time on duties other than teaching. I tend to do much voluntary extra-curricular work around the school: e.g. debating, public-speaking, Year 7 musical. These three examples have meant that to date in this term I have only had 3 or 4 full lunch breaks. Therefore, I am not getting much relaxation time. Occasionally I have become short tempered. In addition, this severely curtails my opportunities for marking and preparation. I rarely am able to use my DOTT for these purposes.

Unrealistic community expectations of teachers. I have been accused by parents of teaching a Year 7 student at a Year 6 level. This ended up at the Ministry despite being assured by the deputy, principal and district office that I was teaching at the correct level. The parents saw their boy as exceptional, but standardised tests showed that he was not. The parents should have been more firmly dealt with at the pre-Ministry levels. I never heard the Ministry's reaction to this.

Lack of appreciation of teachers by the general community. Parents sometimes express disapproval of my approaches to teaching - they think they know better. For example, I had story tellers come to the school. A father rang up and suggested, in a 20 minute telephone conversation, that these story tellers were earning too much for telling a story. The cost was $2 per student for the whole school. As a drama specialist I would have expected appreciation and confidence in me. This one parent had a 'ripple effect' on the other parents - this is still being felt.

The accumulation of many incidents, which in themselves do not cause stress, over a short period of time can cause me immense stress. For example, I sometimes have to rush things to fit them in. Then I worry about cutting corners in presenting aspects of the formal syllabus.

However, in general I am a tactile sort of person who tends not to let things get me down. I have learnt to control my reaction to potential sources of stress - this has come with experience.

Questionnaire was quite reasonably put together. I had no worries responding to the items and did not feel that the questionnaire impinged on my privacy. Very thorough.

Subject Thirteen

Interview Time: 5 minutes

1	Male
2	26-30
2	6-10
7	4-7
3	Bachelor of Education
1	Full-time
1	Permanent
2	Fairly satisfied
4	Very stressful

Ministry do not take a lot of interest in teachers on a personal level. Decisions seem to be made on an economic basis. No individuality. You are just one of the thousands out there. Treated as a number not an individual. When I was in my second year of teaching I was assigned a K-3 class in a rural area school. This was unsuitable for me - I had not been trained in junior primary. I was given this class to fill a vacancy - regardless of suitability. New initiatives from the Ministry are not backed up by adequate in-service courses. Material is provided and the rest is up to you: e.g. new English syllabus.

Spending time on duties rather than teaching. This is particularly so for sorting out inter-personal problems among students. Also of relevance to dealing with welfare needs of students.

Unrealistic community expectations of teachers. We are expected to take on more and more of what have previously been traditional parental responsibilities: for example, manners and discipline. Teachers should not have responsibility for such aspects but should work in co-operation with parents.

Not having enough time during the school day for marking and preparation. Marking senior primary assignments and tests requires more than indicating correct or incorrect. Comments are needed. Students at this level also turn out substantial amounts of work - all of which needs to be marked. DOTT is frequently used to prepare for carnivals, excursions and so on. This often leads to intrusion on private time.

Having to deal with disruptive students. Some children you almost dread having in your class. You are always thinking, prior to having the class, what certain students are likely to get up to. This relates to having students who are continually disobedient. What can you do with such students? Teachers should not have to put up with such students. What right do they have to upset both the teacher's lesson and other students' education.

Pressure on time due to increasing workloads. This is a perennial problem for which there appears to be no adequate solution. Also relates to increasing expectations.

Inadequate communication between the Ministry and classroom teachers is most apparent in the lack of in-service courses related to new curricula.

Hot weather - particularly if teaching in demountables and teaching physical education - if under cover.

Lack of professional development activities which do not interfere with private time. Training for being on a committee to consider candidates for promotion on merit was held after school. If this is considered important, some release time should be organised.

Lack of system-level recognition of good teaching is more of a concern than a cause of stress. Something realistic needs to be done to recognise some of the exceptional efforts by teachers. The efforts of such teachers are realised by teachers in the same school but not outside the school.

Lack of support from parents in the education of the child. Some don't care at all. You send notes home and nothing is done. What is the point? Some parents just want to criticise.

Too many interruptions to teaching program due to extra-curricular activities. Sometimes you hardly see the children at all - sports practice, concerts, visitors to the school such as during book week.

The cumulative nature of incidents, which in themselves are not stressful, can be very stressful. For example, early morning parent interview, followed by students not working properly and then p.a. interruptions, then giving out envelopes for the school post can lead me to feeling very stressed out. I feel like saying to the students - "what's the point"?

Questionnaire is good. Covered all areas of a teacher's working life. Covered all the facts which should be considered. Clear instructions and

easy to complete. Did not take very long - did not cause me much stress. I appreciated receiving results - particularly to compare our school with the total sample.

Subject Fourteen

Interview Time: 70 minutes

2	Female
2	26-30
2	6-10
1	K-3
1	Diploma of Teaching
2	Part-time
1	Permanent
4	Fairly dissatisfied
3	Moderately stressful

There is a little bit of difference in the attitude of the Ministry and Government. The Government is only interested in numbers and devising policies which appeal to the public. I believe that the policies introduced by Mr Pearce were of little educational value. Decisions made were more far-reaching than initially realised. Many of the changes were difficult to implement.

The Ministry are good at implementing new curricula without consultation with teachers. We have had little help with the new English curriculum. Very little in-servicing and lack of resources. Resources given out with new Maths syllabus lacked explanation.

I did receive a sympathetic hearing when I changed from full-time to part-time. The people I spoke to were excellent on this occasion. However, I

may have been lucky because I have heard of others being treated differently.

The Ministry's staffing policy seems to lack logic. Why should temporary staff have to pack their resources at the end of the year? Not only does this effect these individuals, but also the school. New staff have to be properly inducted and this takes time. Thus, other staff members and children are affected.

Also, a lack of logic of acting administrative positions in schools. Quite inexperienced people can suddenly find themselves in charge of a large school without any training. This can effect them individually and the school.

Frequent changes to the curriculum. Resources are not made available at the one time. In-service courses are also inadequate. Implementation of new writing curriculum was appalling. Lack of materials - teachers had to buy new teaching aids, resources had to be duplicated at the school's expense, some materials inappropriate.

Unrealistic community expectations of teachers. Parents expect too much of teachers and have unrealistic expectations of outcomes for children. We are expected to take on traditional parental roles. I have to give out medicine to children and have to organise lunch for one student who is never given lunch by his parents. On one occasion I rang up a mother to tell her that her child was sick. The mother told me that her daughter could walk home because they lived across the road. The daughter was rushed to hospital with perontinitis. The mother made an abusive phone call about this.

Too many children are sent to school sick. Why should we have to look after sick children?

Guidance system at the moment is poor and this contributes to problems of dealing with parents' expectations.

Lack of support from principal. Too frequently the principal is out of the school at conferences or courses. How can they adequately run schools when not there?

Failure of Ministry to provide adequate resources has been discussed within curriculum changes. This also relates to changes being expected to be initiated too quickly.

Disruptive students. Particularly if I get nowhere with them. Lack of support from guidance officer is particularly appropriate in this case.

School discipline policy should be working better than it is. But, when the principal is frequently absent how can this policy work? This does not help with constantly disobedient students. Lack of parental support with discipline. Parents believe what children say.

Teaching classes with wide range of abilities. With Year Ones you can't put them into similar ability work groups because Year Ones don't know how to work as a group. Also, we are now expected to improve the performance of low ability children.

Not only are classes too large but our school population is too large. We have too many demountables and not enough playing areas. We have

lost a music room and a "wet area" to class use. Quality of school grounds have deteriorated because of large numbers.

Lack of appreciation by community. This particularly applies to a few parents. Some only consider our holidays. I refuse to discuss our working conditions with non-teachers because some will not accept that our job is difficult.

Inadequate school-level communication. There is too much happening in the school and the school is too big. We have an extra staff meeting once a week at recess to disseminate information. People on committees have to give up their lunch times.

Children's expectations of themselves are frequently influenced by parental expectations, which are sometimes inappropriate.

Duties other than teaching. Yard duty is the prime example of this. We are held accountable for everything that happens when we are on yard duty. Committee work is tiring. We do get some time off for this but such time is limited due to funding constraints.

No influence over political decisions relating to education such as pupil-teacher ratios, etc. We should have more input because we are the people who have to implement decisions.

Pressure on time due to increasing expectations. Because of having to cover so much, teaching is not as enjoyable for me and the children because they are under pressure all the time. There is little time to relax in the classroom.

Several children require individual programs which means extra work - because of increasing expectations.

Lack of system level recognition of good teaching. As far as I am concerned there is none.

Being unsatisfied with my job. I always wanted to be a teacher but now I wonder about alternative occupations. But being trained as a teacher, what alternatives are there?

Being in a poorly managed school is not necessarily the fault of the principal. Our school is too big and there is too much happening. Maybe the deputies should be non-teaching to help overcome this.

I get stressed out by a lot of little things happening which in themselves are not stressful.

I found the questionnaire quite interesting because I am studying and was able to compare this instrument with surveys I have designed. I can appreciate the effort needed to design this questionnaire.

Subject Fifteen

Interview Time: 45 minutes

2	Female
5	41-45
4	16-20
1	K-3 (Physical Education Specialist)
3	Bachelor of Education
1	Full time
1	Permanent
1	Very satisfied
1	Mildly stressful

To the Ministry we are out of sight - out of mind. To the Government we are only important at election or budget time. Ministry's schemes seem to be thought up with little regard to the effect on teachers. Decisions are made by people in the Ministry who have been out of the classroom too long. Practicalities of implementation are ignored. I feel as if I am treated as a number not a person outside of the school. I have only met the superintendent of our district once this year - this is an example of the lack of personal contact.

Too many interruptions to the teaching program due to the 4 term year. The short terms means that I have not been able to cover the curriculum in sufficient depth. This puts me under pressure and I think that the work should be covered more thoroughly. I believe that some teachers and students have developed a more casual approach to their work.

Lack of support from the principal. Due to frequent absences of the principal on Ministry and other business I, as a deputy, have to do more than I should have to do. These absences also effect the communication between the staff and the principal. Often we find out relevant information from teachers in other schools.

Participating in inappropriate industrial action. Having to make a decision to go on strike in 1989 was very stressful for me. I felt obliged to strike because I was a union member although I did not want to strike.

Starting school at the beginning of the year not feeling refreshed. One of the disadvantages of the 4 term year is that the summer holiday is too short to fully recover.

Having students in class who are continually disobedient. These students totally disrupt the lesson. This annoys me and other students.

Students who are not interested in their school work. This relates to the continually disobedient item because the disinterested students are those who are disobedient.

Lack of participation in decision-making at the school level. While I may be able to contribute to the discussion, sometimes there is little point in doing so because the decision has already been made. Participation in decision-making would promote identification with and ownership of decisions.

Threat of industrial action. Relates to the participation issue - making a decision whether or not to participate. Staff cohesion can be threatened by this because of different attitudes towards industrial action.

The occurrence of many non-stressful items, in themselves, in a short period of time can cause stress to occur. For example, we had education week, test week, test analysis and reporting all within 2 weeks.

The questionnaire could have considered the fact that stress levels vary throughout the year. Items on the impact of changing administrative team and principal expectations could have been included. Apart from these aspects I thought that the questionnaire was clearly set out and quite thorough.

Subject Sixteen

Interview Time: 40 minutes

2	Female
6	46-50
4	16-20
7	4-7 (art and music specialist)
3	Bachelor of Education
2	Part-time
1	Permanent
1	Very satisfied
1	Not at all stressful

Teachers are viewed as numbers not individuals. The Ministry are not interested in me as a person, but the fact that I teach a class: i.e. I fill a gap. The Government views me as a public servant - an employee. Again there is no individuality. I accept this and it does not cause me any stress.

Participating in inappropriate industrial action. I distrust the Union as much as I do the Ministry. I believe that the Union regards me as a number.

Intrusion of work into private time. I feel guilty that I cannot give this time to my family. This is particularly so at report writing times and running an art exhibition.

Poor Union - Ministry relations. This is because this may lead me to having to make unpleasant decisions: for example, in regard to industrial action.

Repetitive nature of having to prepare teaching programs. Even with the creative elements of art there are still aspects of programming which I find boring.

Lack of professional development activities which do not interfere with private time. My family and home life are very important to me and the trend towards the timing of professional development activities causes me much stress. At the same time I can see much value for these activities, but not at the expense of my private life. I would prefer, now, to have a longer working day and have professional development activities before I go home.

Threat of industrial action - this relates to my previous comments of industrial action.

Lack of useful in-service courses. From an art perspective I spend much time in concerned discussion with other art teachers in regard to this problem. Membership of a sub-committee has highlighted this problem and has led this committee to develop appropriate courses - to be held on Saturdays (9 am - 4 pm at a cost of $25).

Because of the nature of my work I am used to constant movement and interruptions, this does not cause me any stress.

I could see patterns in the questionnaire which related to me. However, I can also see the stressors which effect classroom teachers but do not effect me. I have a sense of relief and guilt. Relief that such stressors do not effect me and guilt that I am not that stressed by the job in comparison to others. These stressors I see which effect other teachers are real and the results of such stressors can be quite devastating.

Subject Seventeen

Interview Time: 50 minutes

1	Male
4	36-40
5	21-25
7	4-7 (art specialist)
3	Bachelor of Education
1	Full time
1	Permanent
2	Fairly satisfied
3	Mildly stressful

Teachers get in the way of the financial manipulations of the Ministry/Government. These institutions would prefer not to deal with teachers. I am not valued as an individual - basically the Ministry/Government do not care about me. I wonder how Australia will become a clever country when less is being spent on education and teachers are paid less than tradespeople.

As an art specialist I find that continually changing class levels in a day means that I have to continually change my pattern and level of thinking and communication.

Unrealistic community expectations of teachers. We are expected to take on a multiplicity of roles which traditionally have been taken by parents and other institutions.

Being expected to fulfil a number of different expectations from a variety of sources - this is self explanatory.

Failure of the Ministry of Education to provide adequate resources. The new art syllabus (to be in place by 1993) requires in-servicing for classroom teachers. Yet art specialists have received little assistance. The Ministry expected us to run in-service courses, prepare lessons while we were out of the school, without being paid as a consultant. Extra work load for little intrinsic and extrinsic reward.

Having to deal with disruptive students. My school has no M.S.B. program, therefore, I have to rely on an individual approach. Set procedures such as in a M.S.B., may help to lessen this problem. This relates to inadequate school-level discipline policy and continually disobedient students.

Lack of appreciation by teachers of the general community. The work of teachers is not valued. Teachers tend to be treated with contempt - parents use the staff car park for a social gathering in the morning and after school. This means staff either cannot park their cars or leave early for urgent appointments.

Pressure on time due to increasing workloads. The art syllabus has expanded, which means extra preparation - in our own time.

My attitude towards Ministry-related items is that I no longer really worry about ineptness, incompetence or lack of communication. These exist, but what can I do about this?

No support from the Union. My wife received no support when trying to obtain permanency - which has not yet occurred. She had spent 2 years at one school and then was transferred. This meant she could not get permanency. No Union support over this.

The Union is not really of much use, but this does not stress me (with the above exception). I acknowledge that this situation exists.

Having little influence over political decisions in relation to education. Decisions made by the Ministry are based on dollars and cents. Education decisions seem to be a thing of the past. How can decisions which relate to children be based on money? Productivity and efficiency appear to be the criteria for any Ministry decisions.

Having some teachers in the school who are perceived not to do their share of the workload. Some teachers regard me as a resource for providing them with DOTT. They do not perceive the job of teaching art as being difficult.

Lack of professional development activities which do not interfere with private time and lack of useful in-service courses. Lately there have been no in-service courses. The only one I have attended in the last 4 years was at the Ministry when we were expected to do the job of the Ministry consultants for them.

Lack of system-level recognition of good teaching. This does not cause me real stress but the recent example of having a star next to your name in the "stud book" in recognition of 20 years service is a real joke.

Lack of support from parents in the education of their child. Some parents complain about lack of progress their children make but then will not listen to their child read. They do not consider this to be their responsibility.

Political interference in education. This relates to my comments on dollars and cents. We are expected to do more for less. Resources and money are not adequate.

Too many interruptions to the teaching program due to extra-curricular activities. Examples of this include school concerts and sport. Some teachers then want me to rearrange their class's art lesson. Inevitably this does not occur.

The occurrence of many events which are not stressful in themselves can have a synergistic effect.

Questionnaire seemed to be quite well worked out.

Subject Eighteen

Interview Time: 40 minutes

2	Female
3	31-35
3	11-15
3	K-3
1	Diploma of Teaching
2	Part-time
1	Permanent
2	Fairly satisfied
2	Mildly stressful

The Ministry/Government see teachers in a low profile - we are not that important. They view us as sheep to be pushed around. I am not valued as an individual - there is no personal contact with Ministry officials. I am just a number. If you do something well the Ministry will not thank you. You are merely handed more problems to solve. There are no bonuses for doing a good job as you would get in private enterprise.

As a part-time teacher none of the items listed cause me extreme stress - this is a result of being part-time. Being part-time by choice also contributes to this lack of items causing me extreme stress.

One teacher at school - a staunch unionist - has suggested that part-time teachers put pressure on full-time teachers because we do more. Some of the reasons for this are that we teach in our areas of strength, we have more time for preparation, we are more refreshed and we are happier.

Because of this our students tend to respond better because we are not as tired as other teachers. I have been advised to withdraw from the Union because if I went on strike the Ministry may not renew my one year tandem contract. If I do not strike the Union can take action against me. Therefore, I have resigned from the Union.

Furthermore, because of the above comments on pressure being placed on full-time teachers I believe that the Union is not particularly keen on supporting tandem teachers.

The second part of the interview was concerned with items ranked 4 - much stress.

Having to deal with the welfare needs of students. We have some children who are having social problems or problems at home. While I try to help these students I am given no help. The principal's advice has been not to take these problems on board, but to report them and pass on the information to the appropriate authorities. However, I have never been given practical advice or anything to work with to help me work with such children. There are not enough school psychologists to assist with children who have behavioural and psychological problems. This is an example of inadequate resources being provided by the Government. Parents put pressure on me when they ask what is going on. The stress comes from feeling sorry for the children.

While there are very few items which cause me stress as a part-time teacher I can see how many of the listed events could cause full-time teachers a great deal of stress.

The occurrence of many non-stressful events in a short period of time does not cause me any stress. I cannot see the point in worrying about aspects such as interruptions to my lessons. I simply get on with the job and do not let these interruptions worry me. I think that my passive nature helps me to counter anything potentially stressful. I always tend to look for the positive side of things.

Questionnaire was technically sound. Section 4 provided a wide coverage of potentially stressful events.

Subject Nineteen

Interview Time: 40 minutes

2	Female
3	31-35
3	11-15
5	4-7
1	Diploma of Teaching
2	Part-time
2	Temporary
2	Fairly satisfied
3	Mildly stressful

Ministry and Government hold teachers in not a particularly high regard - more is expected from teachers with provision of less resources, less assistance and less monetary gains. An example of this is the proposed extra 3 hours a week required by teachers on school-based activities such as meetings, committees, constant changes in syllabus and curricula (combined with lack of adequate support). When on strike in 1989 we were deducted 6 hours pay - which demonstrates the Government's lack of willingness to recognise the hours we work.

Changes expected to be implemented too quickly - mainly because of lack of support, training and resources: e.g. language syllabus 1990, writing syllabus to be implemented 1992.

Feeling socially isolated from the staff - because I am a smoker I no longer mix with most of the staff. Therefore, I tend to miss a lot of

information given out about professional and social events. The whole issue of smoking, in my opinion, was not well handled.

Inadequate school level - communication relates to previous aspect. Overall though, communication in the school is okay.

Pressure on time due to increasing workloads - relates to comments on changes. Every task has a time date: e.g. tests. These have to be fitted into the normal timetable. This also relates to pressure on time due to having to meet deadlines.

Lack of co-operation from welfare agencies - inappropriate assistance provided. An unwillingness to recognise that a student may have a psychological problem.

Obtaining permanency - particularly so at the end of the year when employment next year is not guaranteed. This may become worse when the current principal, who supports me, retires at the end of next year. I have always been temporary because when I started teaching I was married and had a family. Therefore, I was not prepared to move to the country. I could apply for a priority school but this would not make it easier to become permanent. Also I would be posted to a priority school geographically distant from my home.

Extreme stress can be caused by the cumulative effects of normally non-stressful events occurring in a relatively short period of time. An example is a lot of minor interruptions.

Questionnaire was well worded and I assume that it will give a good overall picture of stress in teaching. Instructions were clear. Not having to do any writing was a bonus.

Subject Twenty

Interview Time: 45 minutes

2	Female
3	31-35
2	6-10
1	K-3
3	Bachelor of Education
1	Full-time
1	Permanent
1	Very satisfied
3	Moderately stressful

Ministry and Government see that they have done a lot of damage to teachers' morale as a result of events in the late 1980's and perceive the need to rebuild morale. At the same time those in charge do not wish to spend extra money to accomplish this task. I believe that I am regarded as a number by the Ministry, although I have received some favourable treatment from people who work in the lower levels of the Ministry. Those "at the top level" of the Ministry I perceive as being very removed from teachers. This many have resulted from political appointments.

Having to teach classes containing more than one year level. This particularly applies to a split 1/2 where you have some students who do not know how to behave in classrooms. Other split grades also cause problems but this particular example is the worst I have encountered.

Being a non-Union member I don't participate in industrial action even though I feel that I could. This internal conflict causes much stress.

Not having enough time during the day for marking or preparation causes much stress particularly when DOTT is used for other purposes such as administration requests.

Dealing with disruptive students. This is particularly so with some students who should be in educational support units but are not, due to resource restrictions. E.S.U. (education support unit) students are not the only example of this. Such students are very difficult to deal with and should still be under special programs. A similar comment can be made about having students in the class who are continually disobedient.

Hot weather - consideration should be given to changing the holidays because of the heat at the start of the year.

Lack of professional development which does not interfere with private time - particularly with budgetary cutbacks. We put enough into our jobs as it is, which is very tiring. To be asked to spend our own time on professional development is not really fair to hardworking teachers.

Dealing with students who attack each other. This takes an enormous emotional effort on my own behalf to separate those involved.

Working in a poorly managed school has caused me much stress. One principal, new to the school, announced to the staff that he was going to retire in 5 years and that he would not be doing much. This occurred after

a number of "dud" principals and contributed to aspects such as inadequate discipline.

Lack of practical support from school psychologists - this not only involves access to them but for effective and quick action. In some cases you have to be very persistent to get them to do anything.

The occurrence of normally non-stressful events in a short period of time is very stressful. This seems to occur frequently and interrupts the day.

Questionnaire was frustrating to answer because I had to rate the situations for the present and not the past. I would have liked to have been able to consider past events. Instructions were clear and instrument was easy to complete.

Subject Twenty One

Interview Time: 90 minutes

2	Female
3	31-35
3	11-15
5	4-7
1	Diploma of Teaching
2	Part-time
1	Permanent
2	Fairly satisfied
5	Extremely stressful

The attitude of the Ministry and Government towards children is poor because classes should be smaller. Attitude towards teacher is also not good - resources being cut, more expected and very little in-servicing for new courses. Teachers are viewed as conservative - we will not take radical action because we care for the kids. We are kept busy to keep quiet. I am a number to the Ministry - not an individual.

Spending time on duties other than teaching - swimming supervision, playground duty, some surveys - those of which I can see no value, assembly items.

Being confronted with frequent changes to the curriculum wastes resources. Also, I am just becoming used to a particular course and have to change. No educational background to many changes. We, as teachers, are not consulted.

Too many interruptions to the teaching program due to the four-term year - we start too early. We should have summer holidays (when the weather is hot), not Christmas holidays.

Unrealistic community expectations of teachers. We are expected to teach social skills, health, religion and so on. Yet issues such as health and religion attract conflicting opinions from parents. Then we are criticised for what we do.

Inappropriate industrial action. Teachers look bad and in 1989 we achieved nothing.

Being expected to fulfil a number of different expectations from a variety of sources. I feel guilty about what I am not doing and resent criticism from the public.

Failure of Ministry of Education to provide adequate resources - we need more resources, particularly with new courses. Schools now have to provide much of their own resources with less available funds. Yet the Ministry can produce glossy literature.

Not having enough time during the school day for marking and preparation. Not enough DOTT, compounded by other demands. We could do with more specialist teachers - then we could have more DOTT. The children would also benefit from the specialist teachers' skills and knowledge.

Having to deal with disruptive students - lack of respect from students really annoys me. Some students could not care less. Children coming to class unprepared.

Teaching a class which has a wide range of learning abilities among the students - I feel guilty about not extending the really bright kids.

Intrusion of school-related work on private time - reports, having to work most nights and weekends, marking, preparation, going to resource centres. There is always something which I could do for school.

Starting school at the beginning of the year not feeling refreshed - summer holidays are too short and the weather at the start of the year is too hot.

Lack of appreciation of teachers by general community. Examples of this include constant public criticism and negative comments in social conversations. Many people think that it is okay to criticise teachers, but not other workers - the Ministry and Government also attack teachers, which does not set a good example.

Being expected to fulfil a number of conflicting roles, such as social control, evaluation responsibilities and clerical duties. The conflict between my role as a teacher and other "inherited" roles such as collecting money, clerical tasks and so on causes me problems. I am a teacher not a clerk.

Having students in class who are continually disobedient. I have to waste time with one or two students, when I could be conducting an interesting lesson. Also effects me personally -anger, loss of temper.

Teaching students whose attendance at school is inconsistent. Particularly students who are away for prolonged periods who then have to catch up. This can effect my assessment program. Kids, when they get back from absences such as holidays, are unsettled for some time.

Pressure on time due to increasing workloads. I don't seem to have enough time to do anything properly. This item relates to expectations, changing curriculum and lack of DOTT.

Inadequate communication between the Ministry of Education and classroom teachers. We are angry with the Ministry anyway, and the communication we get is merely glossy literature which is not really useful.

Having to undertake duties other than teaching relates to spending time on duties other then teaching.

Lack of support from the Union. The Union executive seem to be concerned with own party politicking - don't seem to be concerned with teachers. The Union executive is supposed to help us but seem to be eroding our working conditions behind our backs and hiding this occurrence behind jargon.

Having little influence over political decisions in relation to education - we should be consulted over the issues listed (student-teacher ratios,

curriculum requirements, conditions of employment) because we have the practical experience.

Teaching students who are not interested in their schoolwork. Such students see no relevance to school - these are usually the disruptive students.

Having some teachers in the school who are perceived not to do their share of the workload. One particular person who we have to send students to does not do a particularly good job and disadvantages the students. This is stressful to me because these kids are not being helped.

Pressure on time due to increasing expectations - this relates to DOTT, curriculum changes, lack of resources, increasing workloads.

Lack of useful in-service courses - we need more in-service courses to deal with the new curricula. Some teachers do not volunteer for courses. I feel guilty about going to some courses because other teachers have to take my class.

Lack of Ministry recognition of good teaching - in my opinion, there is none. We need real and sincere incentives.

Political interference in education - the Government uses education to make themselves look good in the media without any concern for what is really happening. Education has become a vote-catcher.

Too many interruptions to the teaching program due to extra-curricular activities, for example, swimming practice, athletics, and then we are criticised by parents because the school did not win the athletics' carnival.

Cumulative effects of normally non-stressful events occurring in a relatively short period of time can cause extreme stress: e.g. parent interview without prior warning, interruptions to class and so on.

Questionnaire was easy to complete. Sections 2 and 3 were ambiguous to some extent because there are aspects to both which are positive and negative. Instructions were clear. Not having to write anything was a bonus. I would have liked to have discussed past events - this was a bit frustrating.

Subject Twenty Two

Interview Time: 90 minutes

2	Female
4	36-40
3	11-15
6	4-7
3	Bachelor of Education
2	Part-time
1	Permanent
2	Fairly satisfied
3	Moderately stressful

Ministry and Government are becoming one entity, although they should not be. They view me as being ignorant. Only interested in public image and keeping teachers quiet. All "new" syllabi are not new - merely rehashed with different terminology and jargon. Government/Ministry are just keeping us busy and under threat so that we will not cause trouble. I am not valued as an individual by the Ministry - they would not know that I exist.

Spending time on duties other than teaching - playground duty, surveys - particularly those of which I see no relevance and assembly items.

Being confronted with frequent changes to the curriculum, particularly as teachers are not consulted. Also changes appear to have no educational rationale. How can we develop a consistent approach with so many changes?

Too many interruptions to the teaching program due to the four-term year, particularly in relation to starting too early and having to teach through the hottest part of the year.

Unrealistic community expectations of teachers. We are being expected more and more to take on traditional parental responsibilities. Further, some controversial issues such as sex education and religion can bring anger and criticism from some parents.

Inappropriate industrial action. I thought that in 1989 our professional image suffered and we gained nothing. If anything we lost - materially in particular.

Being expected to fulfil a number of different expectations from a variety of sources. Public criticism I particularly resent when I know that I am doing my best to fulfil different parts of my job.

Failure of Ministry to provide adequate resources is becoming more and more noticeable. How can we do a good job without the necessary resources? The Ministry wastes money on "public relations" publications.

Not having enough time during the school day for marking and preparation - particularly lack of DOTT. We could be more effective if we had more available time to prepare and mark.

Having to deal with disruptive students who waste my time and interfere with other children's learning. Why should some children have to suffer because of a few?

Teaching a class which has a wide range of learning abilities. The motivated and intelligent students suffer because of the fact that I have to cater for those who are less able or disinterested.

Intrusion of school-related activities on private time - there is always something to do for school. I seem to have increasingly less time for myself and my family.

Starting school at the beginning of the year not feeling refreshed. I think that there is a case for summer holidays and not Christmas holidays. Furthermore, the long holidays are too short to fully recuperate.

Lack of appreciation of teachers by the general community. Constant criticism, which I think is most unfair, places pressure on me. Teachers seem to be open to criticism - like no other group. Many criticisms originate from ignorance of the demands of teaching.

Poor Union-Ministry relations. I have no confidence in the Union and would like to know that is going on.

Being expected to fulfil a number of conflicting roles, such as social control, evaluation responsibilities and clerical duties. The amount of such roles seem to be increasing, and this, combined with constant criticism, does not make my job easy.

Having students in class who are continually disobedient. These students ruin the lessons for other children and make me feel angry and frustrated. I do not think that it is fair that these few students can detrimentally effect the good kids.

Inept leadership by the Ministry of Education. Much money and resources are wasted. Teachers could make better use of this money but we are not consulted.

Teaching students whose attendance at school is inconsistent. When they return I have to spend time helping them to catch up. This can disrupt my normal teaching program.

Pressure on time due to increasing workloads. I seem to have little spare time, and pressure of time can effect quality of work. This item relates to expectations, changing curriculum and DOTT.

Inadequate communication between the Ministry of Education and classroom teachers. This seems to consist mainly of glossy literature which is not particularly useful.

Having to undertake duties other than teaching relates to spending time on duties other than teaching.

Lack of support from the Union. Members of the executive, in my opinion, are self-serving. Our conditions are being eroded and this process is being concealed by jargon. Many executive members appear to be only concerned with their own political futures.

Having little influence over political decisions in relation to education, such as student-teacher ratios, curriculum requirements and conditions of employment. Lack of consultation over these issues is inexcusable. We have the practical skills and knowledge yet we are ignored.

Teaching students who are not interested in their schoolwork. These are usually the disruptive elements and their attitude seems to be unchangeable.

Having some teachers in the school who are perceived not do their share of the workload. One senior teacher in our school does not help the kids, but what can be done about this?

Pressure on time due to increasing expectations - this relates to increasing workloads, DOTT, lack of resources and curriculum changes.

Lack of useful in-service courses. With the apparently endless changes to the curriculum I would have thought that useful inservice courses would have been necessary. Apparently the Ministry disagrees.

Lack of Ministry recognition of good teaching. What recognition? We need tangible and sincere recognition - not stars in a book.

Political interference in education is now most noticeable. Education has been turned into a vote-catching gimmick with little attention being given to what is really happening.

Too many interruptions to the teaching program due to extra-curricular activities - particularly sports' carnivals for which we get little thanks and mostly criticism from parents if we do not win.

The occurrence of many normally non-stressful events in a short time period can lead to extreme stress. Our school administration seem to be aware of this but unfortunately unforeseen events can still occur.

Instructions on the questionnaire were clear and it was easy to complete - especially as no writing was required. The list of items in section 4 seemed quite comprehensive. Answering sections 2 and 3 required some thought because of the many aspects which I had to consider.

Subject Twenty Three

Interview Time: 40 minutes

2	Female
2	26-30
2	6-10
1	K-3
1	Diploma of Teaching
1	Permanent
1	Full-time
2	Fairly satisfied
4	Very stressful

Our salary indicates the lack of respect the Government has for us. The Government does not realise the stress we are under. The Ministry is slightly more understanding of our situation but could be a lot more supportive. I am viewed as a number by the Ministry. Politicians use publicity at schools for their own gains.

Spending time on duties other than teaching, particularly because I do not have enough time to complete these tasks. This relates to lack of adequate DOTT.

Having to deal with the welfare needs of parents is very stressing because I do not have the necessary skills. I have then found it difficult to find the right help. Teachers should not have to undertake such tasks.

Failure of Ministry to provide adequate resources. We are expected to use a variety of resources but these are not always provided. Journeys to district offices to collect resources takes time and I resent having to spend my own money to carry out my job effectively.

Changes initiated by the Ministry are expected to be initiated too quickly - we do not have enough time at school to implement new syllabi effectively: e.g. maths, handwriting. Other tasks at school are very time consuming.

Not having enough time during the school day for preparation and marking, we require more DOTT. Pre-primary have one day a week DOTT and have a full-time aid. Why can't ordinary primary teachers have the same DOTT?

Having to deal with disruptive students. I find this to be emotionally and physically draining. M.S.B. programs have been useful but have not totally eradicated the problem.

Teaching a class with a wide range of learning abilities. This requires extra planning, and children who become bored can become behaviour problems. I do not have enough time to cater for individuals. Basically the bright kids and the less able kids miss out. I sometimes feel that I am not doing my job because of this.

Intrusion of school related work on my private time - particularly preparation, programming and report writing. This is compounded by professional development requirements.

Having to teach classes in which there are too many children. This makes the job very difficult - relates to discussion on wide range of learning abilities.

When a relatively large number of normally non-stressful events occur in a short period of time I can experience much or extreme stress. At the end of such days I have developed a very short temper.

Excellent questionnaire which adequately covers all areas of teacher stress. Easy to fill in and it was good that I did not have to do any writing.

Subject Twenty Four

Interview Time: 35 minutes

2	Female
6	46-50
1	0-5
6	4-7
1	Diploma of Teaching
1	Full-time
2	Temporary
4	Fairly dissatisfied
5	Extremely stressful

To both the Ministry and the Government I am just a number to be manipulated. The Ministry gives little thought to teachers' requests. We are receiving less material support due to economics.

Unrealistic community expectations of teachers. Parents sometimes just walk in and listen to lessons. Some expect miracles to be worked with their children.

Failure of the Ministry to provide adequate resources. We are expected to do a good job but we are not provided with the resources. Therefore, I have to spend my own time and money trying to obtain suitable teaching aids.

Not having enough time during the school day for marking and preparation. This relates to having to deal with disruptive children. I have

to spend time with disruptive students which I could spend on preparation and marking.

Teaching a class which has a wide range of learning abilities among the students. The very bright children tend to be neglected while I deal with other children who have learning problems.

Intrusion of school related work on private time. Examples include preparation, marking, programming, obtaining resources, parent interviews.

Having students in the class who are continually disobedient. This is very time consuming and wearying.

Teaching students who are not interested in their schoolwork. This relates to disruptive students.

Having some teachers in the school who are perceived not to do their workload. These people have their permanency, yet they are uncooperative and "pass the buck".

Dealing with students who physically attack other students. While this is only a couple of students I never know what to do when this happens.

Teaching students whose level of achievement is less than expected. How am I supposed to deal with these students? Particularly given time constraints.

Being unsatisfied with my job. The thought of having to go to school every day and not feeling adequate in my job. But I want to work with kids. Reality has not equalled perception.

Obtaining permanency. The Ministry has shown incompetence in clerical records on me. I do not know where I will be teaching next year. Appointments are very haphazard and with short notice (only a matter of days).

Too many interruptions to teaching program due to extra-curricular activities. Examples are sport carnivals, visits, concerts, assemblies.

The occurrence of a relatively large number of normally non-stressful events in a day or short period of time is extremely stressful.

The questionnaire was broad in that it covered a wide spectrum, yet it was still concise. I had no problems completing it.

APPENDIX FIVE

OTHER QUALITATIVE INFORMATION

Information Obtained During Distribution of Questionnaires (Informal Discussions with Principals)

Discussions with principals during the pilot study revealed quite a strong anti-Union and anti-Ministry attitude among both principals and teachers. The reasons given for this were lack of Union support and a non-caring employer.

Many principals felt under stress.

Many teachers did not want to participate in the study. A number of schools refused outright. Refusal to participate was communicated either in writing or during telephone conversations. Reasons for refusal to participate included:

(i) many teachers had completed 2-3 questionnaires during the first three weeks of term 2;
(ii) disinterest, could not be bothered;
(iii) could not see the point of participating because nothing will come of the research;
(iv) inundated with questionnaires from which little/no feedback obtained; and
(v) lack of time and too busy.

Other comments made by principals included:

(i) lack of loyalty from Ministry;
(ii) weak Union;

(iii) weak W.A.P.P.A.;

(iv) politicisation of education system;

(v) increased central control by Ministry of Education;

(vi) actions of Ministry in recent years has alienated teachers, this alienation will probably never be overcome;

(vii) the Ministry is an uncaring employer which shows disregard and disrespect for its employees;

(viii) in ten years there will be no educational leadership in schools, principals will be political appointees;

(ix) union is pathetic, executive too "political" - only interested in the "numbers' game".

Comments from Questionnaires

1. Items 4.34, 4.38 triple circled 5

Funding - cutting; by reducing hours of Guidance Officer, Health Sister.
College staff - staying at Colleges too long, not enough contact with classrooms.
Students coming from College not being taught enough - too much is put on back of classroom teacher.

2. I do not believe that the Union acts irresponsibly, but according to the demands and needs of the majority of members. Unfortunately, most primary teachers believe in the action but are too frightened of any consequences to participate. I do not believe the Union neglects teachers, but I believe it should improve Ministry/Union relations.

3. Have little faith in the Union.

4. 4.34 too much useless junk to read.

4.39 yard duty, parent conferences.

4.65 it was not very available and with the recent cuts is virtually non-existent.

5. 4.34 non-existent.

4.41 triple circled.

6. 4.22 This is why I have decided to commence a B. Laws next year. Despite an outstanding academic record people treat me as if I have an IQ of 26.

4.39 Demeaning jobs such as cutting out 40 hearts for a creative writing lesson.

4.40 They (the Union) have decided to go for equal pay for 3 and 4 year trained teachers. No incentive for academics.

4.65 We need individual sessions.

6.3 (often) I think of all the <u>little</u> things at work (sleeping difficulties).

7. 4.9 5 +

4.10 5 +

The Union is really only for TAFE and high school. It is not that primary teachers are apathetic, 95% of us are too worn out and busy to spend time on Union meetings etc.

I thoroughly enjoy teaching children. It's working for an employer who has lost sight of our reason for being here - to take care of children's needs and to support us in this regardless of cost. Our employer needs to make our job easier - not to raise hurdles.

8. 4.6	5	XXXXX	4.23	5	XXXXX
4.27	5	XXXXX	4.32	5	XXXXX
4.64	5	XXXXX			